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I.
L. Elders: "Aristotle's Theology"

ARISTOTLE'S THEOLOGY

A COMMENTARY ON BOOK A OF THE METAPHYSICS

BY

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PREFACE

Book Λ of Aristotle's *Metaphysics* is a treatise which for many ages has exercised a profound influence upon philosophical speculation. It provided late classical, Arab and Medieval philosophy with a doctrine of great depth and with certain notions which proved extra-ordinarily fertile. Foremost among these are the notions of an unmoved Being which is pure actuality, "thought of thought" and leads the happiest of lives; the universe consists of the earth around which 56 spherical bodies ceaselessly revolve in perfect regularity, moved by a First Unmoved Principle and by 55 movers. These leading ideas of *Metaph. A* were well known to the Greek commentators: Alexander, Philoponus and Simplicius, in some of their commentaries, refer to the central texts of chapters seven, eight, nine and ten. Yet it is surprising that a book of this importance is not more frequently quoted in the thousands of pages of the extant Greek commentaries, and that no elaborate explanation of it was bequeathed to us except the text of a mediocre compiler whom students of Aristotle have agreed to call pseudo-Alexander.

The most valuable philosophical commentaries on *Metaph. A* date to the Middle Ages and were written by Averroes and Saint Thomas Aquinas. Since 1847 another type of commentary began to be published in which philological questions are discussed rather than philosophical problems in the strict sense of the term. Among the latter those of Schwegler, Bonitz and Ross deserve to be mentioned. Recently Reale wrote a commentary on the *Metaphysics* in which he also pays attention to certain philosophical doctrines of the text. The commentary to which the present author subjects the reader is a prolongation of these efforts, but contrary to the studies mentioned above, it deals exclusively with *Metaphysics A*.

The purpose of this commentary is to bring together observations of value scattered over hundreds of publications, to carry the inter-

pretation somewhat further and to suggest a number of conclusions concerning the composition of the Book and its place in Aristotle's *Metaphysics*.

The author is well aware of the precarious nature of such an enterprise and of the difficulties and dangers to which he is constantly exposed. He does hope, however, that this commentary in spite of its shortcomings will be of some help to the students of Aristotle and of Greek philosophy.

One of the leading thoughts of the commentary is that there is a real continuity between Academic theories and Aristotle's doctrine of the Unmoved Mover. The author furthermore assumes that the various chapters of the Book do not necessarily form a well-rounded whole and has tried to study each chapter as a unit.

The commentary is preceded by an introduction which, without anticipating the results of the subsequent study, places Book A in the setting of Greek philosophical speculation of the fourth century B.C., and lists the main problems of the text as well as the solutions given so far by the scholars in the field.

In the writing of the manuscript I have incurred many debts of gratitude. My warmest thanks go to Prof. Dr. C. J. de Vogel of the University of Utrecht for encouragement and valuable suggestions, to Prof. H. J. Krämer of Tübingen for reading the entire text and proposing a great number of corrections, almost all of which have been incorporated into the text, and to the Rev. Dr. A. Zimmerman for correcting the English.

The Delegates of The Clarendon Press generously granted permission to quote from Sir Thomas Heath's *Aristarchus of Samos*. Mr. S. Takeuchi typed the manuscript and the Rev. J. Vogelgesang was so kind as to read the proofs.

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INTRODUCTION I

THE THEOLOGY OF *METAPHYSICA* A

The twelfth Book of the *Metaphysics* is perhaps no masterpiece of literature in respect to style and composition. However, it contains insights of such a metaphysical depth, that it has continued to inspire philosophical thought.

The central doctrine of the Book is the conception of an **unmoved Mover**, who is unchangeable and eternal; his being is subsistent thinking; he is the final cause of all movement and the Good desired by the cosmos.

Like all great ideas conceived and formulated in the course of the ages, the doctrine of the unmoved Mover has its historical setting. When in his *De motu animalium* Aristotle sets forth that the origin and first cause of all motions is that which moves itself, and that the immovable is the principle of this¹, so that **movement cannot start when there is not something absolutely at rest and immovable** (ἀπλῶς ἡρεμοῦν καὶ ἀκίνητον, 698b9), he illustrates his theory by a quotation from the *Iliad* VIII: "Nay, ye would not pull Zeus, highest of all, from heaven to the plain, no not even if you toiled right hard; come ye, all ye gods and goddesses! Set hands to the chain"; and he adds that that which is entirely immovable cannot possibly be moved by anything. Also in his other writings Aristotle looks for what one might call a preparation of his doctrine of the first principle in the thought of the Presocratic philosophers. In his *Physics* 203b6-15 he discusses the *apeiron* of Anaximander and draws attention to two of its properties, viz. it is an absolute beginning and it is a single principle which has the dual role of both the material cause and the moving cause². In this

¹ Reading τοῦτον in 698a8.

² Cf. W. Jaeger, *The Theology of the Early Greek Philosophers*, Oxford 1947, 25 ff. O. Gigon, 'Die Theologie der Vorsokratiker', in *La notion du divin depuis Homère jusqu'à Platon. Entretiens sur l'Antiquité Classique*, Vandoeuves-Genève 1952, pp. 127-155, writes that Anaximander attributes the characteristics of a person to an impersonal principle.

connection Aristotle points out that later philosophers like Anaxagoras and Empedocles assigned the function of efficient and directive causality to a special principle which is separate from the material substrate of the universe³.

Another link in the long chain of theological thinking from the Ionian philosophers down to Aristotle's days is provided by Xenophanes of Colophon, poet, philosopher and satirist. Opinions on whether his thought should be called a theology or not and on the question of whether he identified God and the world vary greatly. Werner Jaeger drew attention to fragments 26 and 25: "Always he remains in the same place, not moving at all, nor indeed does it befit him to go here and there at different times; but without toil he makes all things shiver by the impulse of his mind"⁴. He saw in these lines an intimation of Aristotle's doctrine of the First Mover. One must indeed concede that the conception of a motionless, self-sufficient God, who moves by his will, is a very bold development. Yet Aristotle himself indicates that Xenophanes' view is still a far cry from his own theology: "... while Xenophanes, the first of these partisans of the One (for Parmenides is said to have been his pupil), gave no clear statement, nor does he seem to have grasped the nature of either of these two causes, but with reference to the whole material universe he says that the One is God" (*Met.* 986b 21-25, Oxford Translation). This criticism of Aristotle seems to imply that Xenophanes identified the world and God. It is sometimes objected as against such an identification that God is motionless, whereas the world moves. To this one may reply with Guthrie that the motionlessness of Xenophanes' God may not mean more than that he remains in the same place⁵. This identification of God with the cosmos made Xenophanes "the spiritual father of the Eleatics" (Guthrie), so that later doxographers ascribed to his God certain traits which in reality belong to the Parmenidean One.

Common to the sixth and fifth century philosophers is the notion of

³ Cf. W. K. C. Guthrie, *HGPh* I 88; G. Vlastos, in *The Philosophical Quarterly*, 1952, 113.

⁴ Translation by Guthrie, *op.cit.*, 374, who quotes K. von Fritz as taking the last words to mean that God moves things by his will or impulse proceeding from his all-pervading insight.

⁵ It deserves to be stressed that in Presocratic philosophy the first principles as the infinite, air, being, are seldom, if ever, called θεός. Apparently the latter term was not considered suitable to express the ontological status of such a principle. See Gigon, *op.cit.*, p. 146.

a cosmos surrounded by an *arche* of a purer nature. This everlasting principle is the origin of all things and may penetrate the world of opposites. It is present in fire and air; the souls of living beings are believed to be part of this *arche*. As an example of the influence of these conceptions we may point to Heraclitus' theology: the Logos surrounds the cosmos and directs process in it, yet at the same time it mingles with the cosmos; it is the harmony of the opposites and the measure of all things⁶!

With Anaxagoras Greek theology took an important step forward: in the second half of the fifth century the tendency to de-sacralize human life became more prominent. The plays of Euripides and also the doctrine of Anaxagoras and of the atomists provide abundant evidence for this. The author of the Hippocratic treatise *On the Sacred Disease* rejects the idea that a deity could be the cause of a mysterious illness: a disease has only natural causes; if one wishes to attribute some event to the divine, one must look for the divine in these natural causes⁷. What is new here is that the notion of the divine is dissociated from the traditional gods of the myths and connected to natural phenomena. The same way of thinking inspired certain fragments of Anaxagoras' *Physics*. Like Empedocles Anaxagoras wrestled with the problem of becoming and suggested a new approach to solve the seemingly insoluble question that being can only be one and never changes: the concept of mixture, he suggested, holds the key to a solution of the difficulties. There is no absolute coming-to-being or passing-away. Everything exists in smallest particles, and in "everything there is a portion of everything"⁸. The real novelty of Anaxagoras' theory consisted in that he introduced mind as the cause of cosmic order. He conceived mind as the finest and purest of all things. It controls in particular everything which has life. In making mind something distinct from the elements Anaxagoras was well on his way to the conception of a non-material reality: mind is independent (αὐτοκρατής) and exists by itself (μόνος αὐτὸς ἐπ' ἑωυτοῦ); it has all knowledge of everything. Apparently he thought of mind as unique,

⁶ *Op.cit.*, 469-473. In his *Untersuchungen zur Heraklit*, Leipzig 1935, O. Gigon stresses the transcendent nature of the Logos, but G. Kirk considers it above all as an active constituent of things, *Presocratic Philos.*, p. 188. See also W. Jaeger, *op. cit.*, 232, n. 55.

⁷ *On the Sacred Disease*, c. 21.

⁸ B 12. — For a discussion of the different interpretations of this sentence see Guthrie's *History of Greek Philosophy*, II, 286 ff.

divine, boundless in space and time, but he did not consistently elaborate how mind influences all process; he also neglected to place the good, that is, the terminus of all desire, in mind⁹.

Yet Anaxagoras associated *noûs* with life¹⁰; in inanimate things its function is limited to setting process in motion, but its control over living beings still continues.

Although he set mind apart from things, he held that *noûs* is present in certain things, as we read in fragment B 11: "In everything there is a portion of everything except Mind; in certain things, however, there is also Mind."

Anaxagoras' doctrine suffered from the defect of excluding from mind the control over cosmic process and movements as these are taking place now. Diogenes of Apollonia apparently tried to overcome this insufficiency (and its criticism by the atomists) by means of his doctrine of air as a first principle, from which all things come forth and which continuously directs all process. This divine principle is present in animals and man: "the life-giving air in their bodies is a small portion of the god"¹¹. Although strongly influenced by Anaxagoras, Diogenes tried to return to the theory of a single *arche* and accordingly could assign to this principle (which, in a sense, is mind) an influence over all cosmic process.

The Sophists turned their attention to the question of how the concept of God had arisen. They liked to point out that it is impossible to have sense experience of the gods; some of them suggested that religion is a projection of man's inner life or a device to make people observe the laws¹². In the wake of their criticism the need was

⁹ *Phaedo* 97b.

¹⁰ Aristotle, *De anima* 404b1-6.

¹¹ B 4; 5.

¹² Cf. M. Untersteiner, *The Sophists*, New York 1954, pp. 26ff; 209ff. This rationalistic attitude also colours Socrates' words in the *Phaedrus* 246c-d: "Our fancy pictures the god, whom we have never seen, nor fully conceived, as an immortal, living being, possessed of a soul and a body united for all time" (tr. by Hackforth) and in the *Cratylus* 400d: "Of the gods we know nothing". On the question of religious feeling in fifth century Athens see W. K. C. Guthrie, *HGPh* III 226-249. The influence of the Sophists, far from being only negative, contributed to bringing about a certain purification of thinking about the gods: self-sufficiency, self-consistency and moral probity were from now on considered to be essential properties of God. The rationalism of the Sophists rather than turning into full fledged atheism remains a criticism of the traditional conception of the gods. The majority of the enlightened people of that age are likely to have admitted a supreme mind directing cosmic process. Cf. V. Ehrenberg, *The People of Aristophanes*, Cambridge Mass. 1951, 272.

felt to give a rational explanation and justification of the existence of God. In his *Memorabilia* Xenophon attempts to formulate such a demonstration of the existence of a primary principle, and after that, ascribes to it some of the attributes which in Greek religious literature were predicated of God or the divine. In *Laws* 966c-d Plato also insists on a rational proof of the existence of the gods: no one should become a guardian of the city unless he had laboured at such studies. Aristotle resorts to such a demonstration in his *De philosophia*, *De caelo* and in *Met. A* (cf. 1072b30).

Already in Plato's earliest dialogues the conviction is expressed that God is good and does not envy man; this insight becomes the basic principle of his theology. In the *Republic* Plato criticizes the way in which Greek poets describe the gods and argues that the gods must of necessity be just and cannot do harm to anyone¹³. In the *Timaëus* he writes that the demiurge, being good, desires that all things should resemble himself as much as possible.

Plato's use of the terms 'divine' and 'god' is somewhat confusing since the terms signify a whole range of things from the ideas to the heavenly bodies and good men, yet in its most peculiar sense the term 'divine' signifies goodness and excellence, and hence the most divine is a supreme reality beyond the visible things¹⁴. The divine being of this supreme reality is participated in by other things in varying degrees, so that the divine is found in the entire cosmos. Among the things which are most divine is mind, and certain texts intimate that Plato assigned the properties of mind to the supreme being¹⁵.

¹³ *Rep.* 379-383. Cf. also *Polit.* 289d, where sameness and identity are said to be the principles of the most divine of all things.

¹⁴ The idea of the Good is the supreme foundation of being, the model of order for the world and the supreme end of all activity. Cf. *Gorgias* 499e: τέλος εἶναι ἀπάντων τῶν πράξεων τὸ ἀγαθόν. See also *Symp.* 211b; *Phil.* 54c. But the dialogues do not allow us to say that for Plato the Good is God. Cf. V. Goldschmidt, *La religion de Platon*, Paris 1949, pp. 61-62; M. Legido, *El problema de Dios en Platon*, Salamanca 1963, 124-142. However, W. J. Verdenius (see below note 15) and W. Pötscher, *Strukturprobleme der aristotelischen und theophrastischen Gottesvorstellung*, Leiden 1970, p. 7, assume that for Plato the idea of the Good is God. On the use of the term θεός see J. van Camp et P. Canart, *Le sens du mot θεός chez Platon*, Louvain 1956.

¹⁵ See the next section of the Introduction. - W. J. Verdenius, 'Platons Gottesbegriff', in *La notion du divin depuis Homère jusqu'à Platon. Entretiens sur l'Antiquité classique*, Vandoeuvres-Genève 1954, 255, writes that one may

Aristotle framed his theory of the unmoved Mover as an answer to the question of the origin of motion. To what extent can Plato be said to have prepared this conception of a source of movement which is itself unmoved? While in his *Symposium* Plato considers love a moving force which is always active and which moves itself and other things, in *Phaedrus* 245c-246a he introduces as the source of movement soul which is essentially self-movement¹⁶. This self-moving soul is outside the realm of becoming. The concept of self-movement, which plays such an important role in this dialogue, had already been formulated by Plato in the *Charmides* 168a-169a, and is also hinted at in *Phaedo* 105d, where soul is said to always bring with it life to the body which it occupies. Plato seems to have discovered the concept of αὐτοκίνησις as the solution of certain difficulties inherent to Anaxagoras' theory of nous and of motion¹⁷.

In the *Statesman* Plato points out that the activity of soul is the source and cause not only of movement in general, but also of a particular type of movement which is rotation¹⁸.

In *Laws* X "Plato stresses that previous thinkers had misunderstood the nature of Soul and its place in the cosmos. They did not realize that it takes precedence over crude matter. Thus the universe, though governed by Mind, remained for them devoid of life. That Soul and the movement of Soul come first and that every other movement in the physical world is dependent on them is in fact Plato's great, new discovery, pronounced and proved in *Laws* X with the full emphasis

characterize Plato's theology by saying that the more something is divine, the more impersonal it becomes. I would want to qualify this statement: since there is life and movement in the ideas it seems better to speak of 'not particularized' than of 'impersonal'.

¹⁶ The reading αὐτοκίνητον in c 6 is to be adopted in view of the argument of the passus. — The *Phaedrus* might well date to a late period in Plato's life. See O. Regenbogen in *Miscellanea Academia Berolinensia*, Berlin 1950, II, 198ff. From the point of view of stylometrics, however, the dialogue would have been written shortly after the *Republic*. See R. Hackforth, *Plato's Phaedrus*, 1-2.

¹⁷ J. B. Bury, 'Some Questions connected with Plato's *Phaedrus*', in *Journ. of Philos.* XV (1886), 84. J. Skemp argues that the conception of soul as the principle of motion in the universe is connected with a theory which sees in the uniform rotation of the heaven an image of the activity of Mind (*Theory of Motion in Plato's Later Dialogues*², p. 127).

¹⁸ Cf. T. M. Robinson, 'Demiurge and World Soul in Plato's *Politicus*', in *Amer. J. Ph.* 88 (1967), 57-66, p. 65.

befitting so revolutionary an idea"¹⁹. Soul is said to be the origin not only of movement, but of all coming-to-being and passing-away, of all change and process (891e; 896b).

In his later dialogues Plato asserts that soul has been brought into being, and hence it would seem that he is forced to admit a source of motion which is even more ultimate than soul. In *Polit.* 269e he speaks of an active craftsman, a mind which is the leader of all things that move, τῷ τῶν κινουμένων αὐτῷ πάντων ἡγουμένῳ. In *Laws* 898e-899a Plato discusses the way in which soul may move a body and he suggests three possibilities: the stars have souls inside their bodies; soul, while being outside the star, uses a body of fire to propel it; soul, although it has no body whatsoever, moves the star with certain special forces. Especially the latter two solutions intimate a concept of a mover, who is outside the revolving celestial bodies; Plato appears to be feeling his way towards an explanation of movement which no longer resorts to the concept of self-motion. This development of Plato's doctrine is not wholly unexpected, for his thought shows a constant tendency to associate soul with that which is for ever. One may compare *Phaedo* 80a-b: "Would you say, then, Cebes, that the result of our whole discussion amounts to this: on the one hand we have that which is divine, immortal, indestructible, of a single form, accessible to thought, constant and abiding, true to itself, and the soul is very like to it" (translation by Hackforth). Aristotle will further develop this view and prove that movement in nature flows from a source which is unmoved and unchangeable itself and hence is an everlasting activity²⁰.

¹⁹ F. Solmsen, *Plato's Theology*, Ithaca N.Y. 1942, p. 91. Cf. also M. Guérout, 'Le Xe livre des *Lois* et la dernière forme de la physique platonicienne', *REG*, 1924, 27-78, pp. 60ff. Some scholars, as, for instance, Cherniss, believe that for Plato soul causes *all* motion and assume that Plato's theory of the origin of motion is fully consistent. Others, however, among whom Festugière, *La Révélation d'Hermès Trismégiste*, III, XII-XIV, think that according to the *Timaeus* secondary motions are caused by a reality antagonistic to order and mind. As our commentary on chapter ten of *Met.* A will show certain statements of Aristotle put Festugière in the right.

²⁰ In my *Aristotle's Cosmology* I suggested that Aristotle while writing the greater part of the *De caelo* held the view that self-movement explains the revolutions of the celestial bodies. For a similar interpretation see W. K. C. Guthrie, 'The Development of Aristotle's Theology', in *The Class. Quart.*, 1933, 162-171; 1934, 90-98; F. Solmsen, 'Platonic Influences in Aristotle's Physical System', in *Plato and Aristotle in the mid-fourth century*, p. 232: "The conception and theory of

According to Plato the causality of soul extends throughout the entire universe. Likewise in Aristotle's doctrine the unmoved Mover is the ultimate origin not only of the circular movement of the first heaven, but also of all process in the sublunar world. There is, then, a certain analogy between Plato's theory of soul as the origin of movement and Aristotle's doctrine of the First Mover, such despite irreducible differences between both conceptions.

Plato had not given a clear answer to the question of whether a single good or bad soul, or a plurality of souls, is at work in the universe. In the *Laws* soul appears to be a generic principle rather than an individual entity²¹. Aristotle likewise mentions the question of a plurality of movers, but he does away with the idea of an evil force or antagonistic principle, the existence of which was intimated by Plato in his *Timaeus*²². Aristotle was aware of the fact that Plato's theory of motion as set forth in the dialogues is not entirely consistent and that in the *Timaeus* movement is described as something already given in the cosmos, upon which mind must impose order²³.

Besides his doctrine of soul Plato developed a theory of principles according to which all essences are connected with the supreme

a. First Mover have no place (in these chapters of the *De caelo*)". – However, I would now say that such an interpretation simplifies the evidence of the texts: as long as Aristotle had not worked out his doctrine of causes, of actuality and potentiality, he could not yet infer the existence of a First Mover, in the way he does in *Phys.* VIII. Yet the concept of the unmoved Mover as presented in *Met.* A is, as it would seem, dependent on an ontological division of being which is essentially Academic, and the First Mover is the final cause of the movement of the first heaven rather than its efficient cause. The doctrine of such a first principle as a final cause of movement may have been associated with the concept of self-movement of the first heaven (in the order of efficient causality). Furthermore, the myth of the *Statesman* is also likely to have influenced the framing of Aristotle's early concept of a First, Unmoved Mover.

²¹ See Solmsen, *Plato's Theology*, 141. Cf. *Laws* 896e-899b and A. J. Festugière, *La Révélation d'Hermès Trismégiste. Le Dieu cosmique*, Paris 1949, p. 126. A similar ambiguity appears in the dialogues of Plato who shifts with great ease from the singular *θεός* to the plural form *θεοί* in texts like *Tim.* 45a-47c and elsewhere. The *θεοί* are causes or beings which are in more direct contact with the phenomena of this world and are a partial manifestation or realisation of the encompassing deity. Cf. W. Pötscher, *op.cit.*, pp. 7-9, who draws attention to the use of *θεός-θεοί* in ancient Greek literature.

²² On the difficult question of whether the description of chaos and necessity is meant literally, see the commentary on chapter ten.

²³ See the commentary on 1071b32ff.

principle, which, in his later years, Plato called the One²⁴. In the procedure of the reduction of reality to the One and to the second principle, the Indeterminate Dyad, the method of division was of great importance. The demonstration of the existence of an unmoved Mover in *Met.* A 7 is developed against the background of this Platonic ontology: because there are things which are moved, and others which move, while being moved themselves, there must also be being which is moving others, but unmoved itself. The properties which Aristotle ascribes to this unmoved Mover, as, for instance, that it is mind, endowed with an uninterrupted life, is impassive and unchangeable, evoke the characteristics attributed to supreme reality by Plato and Xenocrates²⁵.

The famous mathematician Eudoxus is also likely to have contributed to the genesis of Aristotle's doctrine of a first, unmoved Mover: he was instrumental that astronomical studies were placed in the centre of interest in the Academy. According to Eudoxus the complicated movements of the celestial bodies obey a masterful plan. He saw their movements motivated by their inborn desire for pleasure, which is identical with the desire to act and to live. It is probably under the influence of Eudoxus that Aristotle arrived at the conception of his theory that all moving things strive for a happiness which, in its highest form, exists in a supreme being which is joy and activity²⁶. But Aristotle stressed in particular that the supreme reality is knowable and he seems to restrict the imitation of its bliss mainly to the first heaven.

A well-known passage in the second chapter of the *Metaphysics* of Theophrastus gives further support to the assumption of the dependence of the theory of the First Mover on Academic thought. After pointing out certain difficulties inherent to this theory Theophrastus

²⁴ Cf. *Rep.* 518c; 526e; 532c and A. Diès, *Autour de Platon*, II, Paris 1927, 542-543.

²⁵ See H. J. Kraemer, *Geistmetaphysik*, 190. On p. 158 the author writes: "Es kann darum wohl keinen Zweifel unterliegen, dass das Prinzip der *νοῦς-θεός* des Aristoteles in akademischer Terminologie nichts anderes als *ἐν* und *μονάς* war, und als solche mit der *νοῦς μονάς*, dem *πρῶτος θεός* des Xenocrates in allen wesentlichen Stücken – beide sind zugleich *ἀγαθόν* – sachlich und geschichtlich aufs engste zusammengehört".

²⁶ Cf. W. Schädewaldt, 'Eudoxos von Knodos und die Lehre vom unbewegten Beweger', in *Satura Otto Weinreich dargebracht*, Baden-Baden 1952, 103-129. Prof. H. J. Kraemer was so kind as to point out to me that no extant text explicitly says that Eudoxus admitted a transcendent *noûs*.

adds that also those who believe in the One and those who emphasize numbers (i.e., the Platonists) make imitation or desire the origin of movement. From this we may infer that Aristotle's theory of the unmoved Mover was one among other attempts to determine the origin of movement in the cosmos and to identify this source with the supreme Being.

Apparently chapter seven of Book A is a splendid synthesis of Academic theories which are transposed on a new level: the ultimate reality is no longer the One which is above all knowledge and definition, but *Noûs*, i.e., ever actual self-knowledge and at once the supreme Good of the universe.

As to the question of how Aristotle arrived at the insight that the ultimate source of motion is an *unmoved* principle we do not know the answer: it would seem that in *Met. A* 7 the theory of potentiality and actuality has no direct relation with this insight, for this principle is described as the final cause of movement only. Aristotle may have found this doctrine following a line of doctrinal development already visible in Plato's later works, and sustained by the conviction that the unmoved can be eminently active.

Owing to the wealth of doctrine which went into its making, and to Aristotle's unparalleled power of synthesis coupled with his discovery of the concept of actuality chapter seven of *Met. A* has become one of the greatest texts in the history of philosophy.

Met. A is not the only Book of the *Corpus* which contains the doctrine of the First Mover: *Phys. VIII* in its entirety is devoted to the study of the source of movement; *Phys. VII* gives what amounts to a summary of certain parts of *Phys. VIII*, and also proposes the doctrine of the First Mover. In the *Corpus* at large quite a number of texts speak about God and some of these ascribe to God a more encompassing knowledge and causality than *Met. A*. According to the account given in *Phys. VIII* the First Mover would be immanent to the spheres rather than transcendent, and would exercise efficient causality²⁷.

²⁷ Cf. *Phys. VIII*, 10, 267b9. The text seems to assign a definite place to the First Mover. See also the *De caelo*, 279a20; *Tim.* 36e; Xenocrates, fr. 15 H; Eudemus, fr. 122a Wehrli. One should perhaps not attach too much importance to the statement that the First Mover is in a place. The first Mover is there where he manifests his activity and the text does not say that he is entirely subject to place. — Certain scholars felt that the treatment of the First Mover does not properly belong to metaphysics, and that *Met. A* should be read in the light of *Phys. VIII*. Cf. V. Rose, *De Aristotelis librorum ordine et auctoritate*, p. 160.

In view of this lack of complete agreement between statements about God occurring in the different parts of the *Corpus* several interpretations of Aristotle's theology have been advanced. Certain commentators could not resist the temptation of "discovering" some traits of the Christian concept of God in Aristotle's idea of the divine²⁸. According to W. Jaeger Aristotle would first have admitted a unique First Mover, but in later years he would have turned to polytheistic theories²⁹. H. von Arnim believes that at an early date Aristotle held that a bodily substance like the aether could move itself, but that he later reached the insight that nothing can move itself; it is in this way that he developed his doctrine of the First Mover. According to Von Arnim there is no considerable difference between the theory set forth in *Phys. VIII* and that of *Met. A*³⁰. R. Mugnier assumes that the First Mover is the soul of the first heaven; it is unmoved but immanent to its body. The author does not see any opposition between *Phys. VIII* and *Met. A* 6, 7, and 9, but he does think that Aristotle's theory developed into the doctrine of a plurality of first principles. This evolution would be intimated in certain lines of *Phys. VIII* and *Met. A* 6 and 7, but it would have reached its definite form in *A* 8³¹. M. de Corte, on the other hand, pointed out certain contradictions in both treatises: in *Phys. VIII* the First Mover exercises efficient causality; he is the head of the cosmos, in contact with the world. In *Met. A*, on the other hand, the unmoved Mover is personal thought, and appears to be without relation to the world, which he does not know³². J. Paulus admitted this dualism. Inspired, as it seems, by a text of St. Thomas in the *Summa contra Gentes* I 13, he suggests that the doctrine of *Phys. VIII* (to which that of *Phys. VII* can be reduced) does not concern an absolutely supreme principle, but a principle of movement attached to the spheres, and comparable to soul. To make

²⁸ See K. Elser, *Die Lehre des Aristoteles über das Wirken Gottes*, Münster 1893.

²⁹ Aristotle, chapter 14.

³⁰ H. von Arnim, *Die Entstehung der Gotteslehre des Aristoteles*. Sitz.ber. d. Ak. d. W. in Wien, phil. hist. Kl., 221,5 (1931).

³¹ R. Mugnier, *La théorie du Premier Moteur et l'évolution de la pensée aristotélicienne*, Paris 1930, esp. pp. 122ff. An inference from this interpretation is that for Aristotle a theology in the strict sense of the term, i.e., as a special science of God, is impossible. P. Natorp subscribes to such a view in his 'Thema und Disposition der Metaphysik', in *Philos. Monatshefte*, XXIV, 52: God is part of the subject of the πρώτη φιλοσοφία.

³² 'La causalité du Premier Moteur dans la philosophie aristotélicienne' in *Revue d'Histoire de la Philosophie*, 5 (1931), 105-147.

this plausible Paulus presents the following analysis of *Phys. VIII*: there are beings which are sometimes in movement, sometimes in rest (ch. 3); whatever is moved, is moved by something else (ch. 4); one cannot proceed indefinitely, in search of the origin of movement, by looking each time for another mover in a series of movers. The absolutely first mover who does not depend on anyone else is either unmoved or he moves himself. Aristotle, Paulus writes, then shows that within this mover some part must be unmoved³³. The unmoved origin of movement would be a principle within the first heaven and intimately united to it³⁴. The unmoved Mover of the *Metaphysics*, on the other hand, is transcendent and not inherent to the world. Paulus suggests that the two doctrines complete each other: *Phys. VIII* asserts the existence of one or more movers of the spheres which are not an absolute reality, but subordinated to the supreme Mind of *Met. A*³⁵.

One may agree with Paulus on the question of the presence of mind or soul in the heavenly spheres. The commentators ever since Alexander have admitted this³⁶. Perhaps better than speaking of ensouled celestial bodies, one should say that mind is present in them. The *De philosophia* and certain parts of the *De caelo* suggest that Aristotle did not draw a clear distinction between the body of the first heaven and mind, nor between mind as belonging to an individual being and mind in general.— Other aspects of Paulus' interpretation are less fortunate. He assumes, for instance, that the First Mover is, in a sense, moving himself³⁷. Moreover, contrary to what Paulus thinks, the unmoved Mover of *Met. A* is actually 'moving the universe' (1072b4 and b9), so that there is hardly a role left for a subordinate First Mover.

³³ J. Paulus, 'La théorie du premier moteur chez Aristote', in *Revue de philosophie*, (1933), 259-294; 394-424.

³⁴ *Op.cit.*, 269.

³⁵ *Ibid.*, 401.

³⁶ See Alexander ap. Simpl., *In Phys.*, 1354,12ff.

³⁷ According to I. Dockx, 'De theorie van den onbewogen Beweger bij Aristoteles', in *Tijdschrift voor Philosophie*, 1939, 147-773, p. 763, in *Phys. VIII* 5 Aristotle would not speak of an unmoved Mover because he formulates the argument from the point of view of an adversary. — Another explanation of this apparent contradiction is that *Phys. VIII* is not a homogeneous treatise. In his essay 'La structure logique de la preuve du Premier Moteur chez Aristote', in *Revue philosophique de Louvain*, 1948, 136-160, G. Verbeke reaches the conclusion that the text of *Phys. VIII* is not completely uniform, but consists of two different treatises.

E. Oggioni tries to overcome the discrepancies by assuming that *Phys. VII* and *VIII* are a first formulation of the doctrine of the source of movement, and that *Met. A* is late³⁸. M. de Corte took up the subject again and reached the conclusion that in *Phys. VIII* Aristotle never intended to give a complete theology; nevertheless the First Mover is absolute activity and supreme reality³⁹. De Corte points out that Aristotle's theory of the First Mover remains enclosed within a particular image of the universe. If he would have freed himself from this, his doctrine would have acquired a more metaphysical character⁴⁰.

In his discussion of the proofs of the First Mover in *Met. A* and *Phys. VIII* J. M. Le Blond speaks of heterogeneous schemes of thought and argument⁴¹: if the unmoved Mover has no other than final causality, one is forced to admit that the (efficient) cause of movement lies in the being which moves itself, but, if so, this conflicts with the principle that whatever moves is moved by another.

In conclusion we may say that the doctrine of both texts does not fully agree: in *Met. A* Aristotle apparently attempted to give a synthesis of Platonic, Academic and Eudoxian thought concerning the origin of movement: the unmoved Mover is the supreme Good, and the final cause. Typically Aristotelian is the stress on actuality as well as the insight that ἐνέργεια must be the ultimate source of movement. Contact between mover and what is moved is not necessary, but the presence of mind in the cosmos is.

However, contrary to the apriori statement of *A* that there is something which is moving while being moved itself, something which is moved and, hence, also something which is moving but unmoved, *Phys. VIII* insists on an analysis of movement and makes the proof of the existence of the First Mover entirely dependent on the movements observed in the cosmos.

Aristotle himself did not make a synthesis of the different approaches set forth in *Met. A* and *Phys. VIII*. The *Corpus aristotelicum* as it has been handed down to us through the ages, is, of course, a very imperfect rendering of Aristotle's thought and work: it affords us some insight into a gigantic intellectual enterprise and in the principles

³⁸ *Aristotele. La Metafisica*, tradotta da Pietro Eusebiotti, Padova 1950, pp. 332-333.

³⁹ 'La causalité du premier moteur dans la philosophie aristotélicienne', in *Aristote et Plotin*, pp. 107-175.

⁴⁰ *Op.cit.*, p. 115.

⁴¹ J. M. Le Blond, *Logique et méthode chez Aristote*, Paris 1939, p. 391.

which guided his work and sometimes provides us with a coherent treatise on a subject matter, yet often we have to be satisfied with a number of texts which do not present a definitely elaborated theory or which do not solve certain questions and apparent contradictions.

It is also possible that in the case of the theory of a First Mover Aristotle himself did not see very well how he could combine the idea of subsistent thinking with that of a first efficient cause of movement in the cosmos⁴². The coexistence of absolute actuality and time-bound changing being is a metaphysical problem which has tried the ingenuity of later philosophers and to which no solution by argument can be found.

INTRODUCTION II

ΝΟΥΣ

The unmoved Mover in A 7 and 9 is described in terms of νοῦς and νόησις. Aristotle often uses the insights of other philosophers, developing them further and transposing them on a new level. Likewise his doctrine of a supreme Noûs uses elements scattered in the works of Plato and the Presocratics.

It is difficult to find an English equivalent for νοῦς and νοεῖν¹. In Homer the terms denote the seeing and 'intuition' of things, but in Presocratic philosophy they acquired the meaning of grasping the truth, i.e., a direct knowledge not of what is on the surface, but of the profound and true nature of things. Anaxagoras gave noûs a new function and a new status making it a principle which is the initial cause of motion and governs everything². For Anaxagoras this noûs is the finest and purest of things, so that apparently he did not conceive of it as an immaterial reality. In popular conceptions of the epoch noûs was sometimes conceived as a factor, inherent to the universe and to man, divine in nature. The noûs is immortal: "the noûs in each of us is god"³.

Plato uses the term in the sense of mind (intellect), of the act of thinking in as far as it is directly grasping the truth⁴, insight and meaning, but in the dialogues noûs also signifies mind in as far as it is a directive principle. Plato furthermore distinguishes between the noûs of human individuals and absolute, divine reason⁵. In Aristotle's

¹ K. von Fritz, 'ΝΟΥΣ, ΝΟΕΙΝ and their derivatives in Presocratic philosophy', in *Class. Philol.* XL (1945), 223-242; (1946), 12-34.

² Already Xenophanes made God rule the world by the thought of his mind: νόου φρενὶ πάντα κραδαίνει (B 25).

³ Euripides, fr. 1018 Hauck. Cf. also his *Helena* 1014 ff. and W. K. C. Guthrie, *HGPh* II 18.

⁴ Cf. *Rep.* 511 d: ὥς μεταξύ τι δόξης τε καὶ νοῦ τὴν διάνοιαν οἶσαν.

⁵ See *Philebus* 22c and R. Schottlaender, 'Nus als Terminus', in *Hermes* 64 (1920), 228-242, p. 233.

⁴² E. Zeller pointed out that Aristotle had to deny efficient causality to the unmoved Mover because 'poetical activity' connotes an imperfection repugnant to God: God has no end other than himself. Cf. *N.E.* 1173b7 ff. See also F. X. Meehan, *Efficient causality in Aristotle and St. Thomas*, Washington 1940, pp. 85 ff. Others, as for instance F. Brentano, advance a number of scattered texts to show that Aristotle did ascribe a ruling power to God (*Aristoteles*, in *Grosse Denker*, I, ed. by E. von Aster, Leipzig 1923, 201). Commenting on *Pol.* 1326a30-32 Von Arnim writes: "Kein Wort kann klarer der Wirksamkeit Gottes Zeugnis geben". More recently W. J. Verdenius has drawn attention to certain texts which, as he feels, almost go to the point of ascribing efficient causality to the First Mover ('Traditional and Personal Elements in Aristotle's Religion', *Phronesis* 1960, 56-70, p. 61; see also E. Zeller, *Die Philosophie der Griechen* II, 2, 799).

days popular language used the term in the broad sense of mind including λογισμός, ὄρεξις, αἰσθησις, ἦθος. Aristotle occasionally conforms to this, as, for instance, in *E.N.* 1168b35, but elsewhere he draws a clear distinction between *noûs* on the one hand and feeling and desire on the other hand. Cf. *De anima* 433a26. Yet desire is not unrelated to *noûs*: it follows thought; *noûs* itself becomes desire⁶.

For the understanding of *Met. A* it is of considerable importance to examine the question of whether Plato admitted *noûs* as a supreme principle. At first sight it would seem that this question must be answered in the negative, for a great number of texts indicate that Plato made the One a principle beyond being, and thus beyond thinking⁷. Yet on closer inspection the problem cannot be done away with so easily. Certain statements in the later dialogues witness to a tendency to associate *noûs* with the first principle. The same way of thinking appears in the *De anima* I 2 where Aristotle mentions the ultimate principles in Plato's philosophy. The series νοῦς, ἐπιστήμη, δόξα, αἰσθησις is related in such a way to these principles that νοῦς is said to be, or to correspond to, the One⁸. It is possible that the text does not say more than that *noûs* is the act of knowledge which grasps the supreme principle, yet it is obvious that the reason of why *noûs* is capable of contemplating the divine is that it is akin to it⁹. Several passages in the dialogues do indeed connect the Good and knowledge. For instance, in *Rep.* 508e Plato calls the Good 'a cause of knowledge and truth'¹⁰. In *Rep.* 518c and 532c he stresses the clarity and know-

⁶ Cf. *E.N.* 1139b4-5: διὸ ἡ ὀρεκτικὸς νοῦς ἡ προαίρεσις ἡ ὄρεξις διανοητική, καὶ τοιαύτη ἀρχὴ ἀνθρώπου.

⁷ This is implicitly contained in the famous text of *Rep.* 509b. See H. J. Kraemer, "ΕΠΕΚΕΙΝΑ ΤΗΣ ΟΥΣΙΑΣ. Zu Platon, *Politeia* 509 B", in *Arch. f. Gesch. d. Phil.*, 1969, 1-30.

Cf. *Met.* 1080b6; 1084b18; 987b22; 988b2; 1091b14. See also the fragment of Hermodorus, ap. Simpl., *In Phys.* 247,30 - 248,15, - and Aristoxenus, *Harm. Elem.* II 30 (Meibom).

⁸ 404b22 (νοῦν μὲν τὸ ἐν). See also 428a4; *Met.* 1074b35. On the attribution of the theory to Plato see K. Gaiser, *Idee und Zahl*, in *Abh. Heidelb. Ak. d. W., Phil.-hist. Kl.* 1968, 2, 49ff. It is not certain whether here τὸ ἐν signifies merely the number one or also connotes the transcendent principle.

⁹ Cf. *Rep.* 611e (ὡς συγγενὴς οὖσα τῷ τε θεῷ καὶ ἀθανάτῳ καὶ τῷ ἀεὶ ὄντι).

¹⁰ On this text see H. M. Baumgartner, 'Von der Möglichkeit das Agathon als Prinzip zu denken', in *Parousia* (Festschrift für J. Hirschberger), Frankfurt 1965, 89-101, and H. J. Kraemer, *op.cit.* (sub 7), pp. 25ff. (esp. n. 72). The author points out that this doctrine must be explained by referring it to the Unwritten Doctrines.

ability of the Good (τοῦ ὄντος τὸ φανότατον).— Already in the earlier *Protagoras*, 292b, Plato had ascribed knowledge to that which is good (ἀγαθόν, οὐδὲν εἶναι ἄλλο ἢ ἐπιστήμην τινα).— None of these texts, however, allows us to identify the supreme principle with *noûs*¹¹. A more promising approach is to examine those texts in which Plato speaks of the function and causality of God and the demiurge. In *Phaedrus* 246b-e Plato writes that Zeus (probably the sphere of the fixed stars) cares for all things, διακοσμῶν πάντα καὶ ἐπιμελούμενος. This διακοσμεῖν is a function typical of *noûs*¹². In *Soph.* 265c 'nature' is said to produce the visible things by a power that works with 'reason' and divine knowledge, given to it by God¹³. From this text we may infer that Plato was convinced that mind is immanent to nature, influences becoming and order and dwells in the cosmos; it imparts life (cognition and self-movement) to living things¹⁴. *Noûs* in the human individual is dependent on this cosmic *noûs* (*Phil.* 22c).

In his *Tim.* 34b Plato introduces the world-soul which extends throughout the whole cosmos and is a bearer of *noûs*. However, the being of this world-soul is not identical with the immutable, ultimate reality, and Plato is not very clear as to whether this soul is strictly one or not¹⁵.

Beyond what one might call cosmic *noûs* in the world-soul¹⁶ Plato

¹¹ Some scholars, as for instance C. J. de Vogel, assume that the trend of Plato's thinking is towards a theory in which the ideas are part of an organised, unified world of ideas, which is alive and in which the ideas are being thought. Cf. her 'A la recherche des étapes précises entre Platon et le néoplatonisme', *Mnemosyne* 1954, 111-122, p. 118. Cf. *Tim.* 29a and 39e (the demiurge contemplates an eternal model): ἥπερ οὖν νοῦς ἐνούσας ἰδέας τῷ ὅ ἐστιν ζῶον, οἷα τε ἐνέεισι καὶ ὄσαι, καθορᾶ, τοιαύτας καὶ τοσαύτας διανοήθη δεῖν καὶ τόδε σχεῖν. — Others are sceptical with regard to an interpretation of the ideas as the thoughts of God (as, for instance, Audrey N. M. Rich, 'The Platonic Ideas as the thoughts of God', *Mnemosyne* 1954, 123-133), yet with De Vogel I think that the trend of Plato's doctrine is towards such an identification.

¹² Cf. *Phil.* 28e.

¹³ I follow J. Loenen, *De 'Nous' in het systeem van Plato's Philosophie*, Amsterdam 1951, pp. 151-155.

¹⁴ On this point Plato followed the predominant trend in fifth century philosophical thinking. See W. Theiler, *Zur Geschichte der teleologischen Naturbetrachtung bis auf Aristoteles*, Berlin 1965, 35.

¹⁵ *Laus* 898c: ἡ πᾶσαν ἀρετὴν ἔχουσαν ψυχὴν μίαν ἢ πλείους.

¹⁶ See *Phil.* 30c. Those who deny the existence of transcendent *noûs* hold that *noûs* must always be in soul. There are, however, a number of texts which intimate the existence of a perfect and divine *noûs*, as, for instance, *Phil.* 22c (ἀληθινὸς καὶ θεῖος νοῦς). In the *Timaeus* the demiurge is described as a principle

admits a transcendent factor of rational purpose, depicted as the demiurge, which framed the universe by placing *noûs* within soul, and soul within body (*Tim.* 30b)¹⁷. In *Polit.* 269d Plato likewise asserts the existence of a being which is always the same, τὸ κατὰ ταῦτα καὶ ὡσαύτως ἔχειν αἰεὶ καὶ ταῦτόν εἶναι, incorporeal and free from change (269e), yet is alive and which life is perfect self-movement. It directs all other moving things and has a causative function in respect of the world (δημιουργός, 270a; ἐπιμελούμενος, 271d; συναρμόσας, 269d; συνθεῖς, 273b; κοσμήσας, 273d; ἐπιστατῶν ἐνέμεν, 271e; κυβερνήτης, 272e; πατήρ, 273b)¹⁸.

These and similar texts intimate that Plato considered this principle, which is at work in the organisation of the world, as thought, and that he distinguished it from soul, for he writes that heaven or the universe has received many gifts from him who brought it into being, but also has been made such as to partake of bodily nature (269d). In this text the terms 'heaven' and 'universe' do not just signify the material

above and prior to this world and to soul. One may also compare *Tim.* 51c where Plato states that intelligence is shared only by the gods and by a small number of men, and thus appears to separate *noûs* somewhat from soul. Cf. *Laws* 875d. – G. Jaeger, "Nus" in *Platons Dialogen*, Göttingen 1967, 119, n. 543, does not think that *Phil.* 22c proves the existence of transcendent *noûs*, yet he admits that *noûs* is not limited to any specific level of being (*ibid.*, 144).

¹⁷ *Tim.* 39e. F. Solmsen, *Plato's Theology*, 121, n. 45, points out that the activities ascribed to the demiurge are typically those of reason. F. Cornford, *Plato's Cosmology*, 197, writes that it is difficult to resist the inference that the demiurge is to be identified with *voûs* which is in the world-soul. – I do not think that the last part of Cornford's assertion is right, since the demiurge is consistently described as being prior to the world-soul and the αἰτία is said to be better than that which is produced by it. Hence if the demiurge is to be identified with *voûs*, it is with transcendent *voûs*.

Cf. also C. J. de Vogel, "Platon a-t-il ou n'a-t-il pas introduit le mouvement dans son monde intelligible?", in *Actes du Xe Congrès International de Philosophie* (Bruxelles 1953), Louvain 1953, XII, p. 65; W. Theiler, *Zur Geschichte der teleologischen Naturbetrachtung bis auf Aristoteles*, p. 72; G. Jaeger, *op.cit.*, 123, n. 569. K. Gaiser also confirms this in his *Platons Ungeschriebene Lehre*, 193. A full discussion of this problem goes beyond the scope of this introduction. For such an adequate treatment see H. J. Kraemer, *Geistmetaphysik*, pp. 193ff.

■ See J. Skemp, *Plato's Statesman*, 105; Loenen, *op.cit.*, 172. T. M. Robinson, 'Demiurge and World Soul in Plato's *Politicus*', *AJPh* 88 (1967), 57-66, thinks that the demiurge of the *Statesman*, since it is intelligence, is meant to be a person. W. J. Verdenius, 'Platons Gottesbegriff', in *Entretiens sur l'Antiquité classique. Fondation Hardt, Vandoeuvers 1952*, agrees with this, but adds that the higher we are in Plato's hierarchy of being, the less personal deity becomes.

world but in the first place soul. The supreme Lord is described as the ultimate source of movement (τῷ τῶν κινουμένων αὐτῷ πάντων ἡγουμένῳ, 269e). From this it follows that in the *Statesman* Plato goes beyond the doctrine of the *Phaedrus* according to which soul is the unqualified principle of movement. J. Skemp writes concerning this question: "The *voûs* of Anaxagoras seems in Plato to have become a distinguishable agent who, if the *Politicus* myth can be trusted, abides ever in the same relation and the same condition and yet can be said to 'revolve ever by his own power' and to be 'lord and leader of all things that move', has become a self-moved mover capable of intelligent fashioning of order by creating subordinate centres of intelligent functioning – the soul of the world and the soul of its denizens"¹⁹. The author then points out that in the later dialogues soul is consistently said to have been brought into being, and so cannot be itself an ultimate principle of becoming. Hence the demiurge cannot be *noûs* within the world-soul unless we assume that it creates soul as the natural sphere of its activity, or, to put it in other words, that it is always accompanied by soul which depends on it. Such an explanation, which would be neo-Platonic in character, would suffer from the defect that in *Phil.* 30c-d soul is depicted as the ontological basis of *noûs* rather than as a concomitant effect. For this reason it seems better to interpret texts as *Tim.* 30b and *Phil.* 30c-d, which state or imply that *noûs* has to be in soul, in such a way that *absolute noûs* is excepted²⁰. Only *cosmic noûs* would be incapable of independent existence and need soul²¹. Since soul is self-movement and akin to self-reflecting thought, it is the natural recipient of *noûs*²².

From this arises the question of whether transcendent *noûs* has to be conceived as something besides the ideas. According to certain

¹⁹ J. Skemp, *The Theory of Motion in Plato's Later Dialogues*, *Addenda*, p. 164.

²⁰ H. Cherniss insists on this. See his *Aristotle's Criticism of Plato and the Academy*, 606-607.

²¹ See R. Hackforth, in *Class. Quart.*, 1936, 4-9. H. Cherniss, *op.cit.*, 607, does not agree with this: deity as *noûs* is not causally independent, but must exist in soul. "For Plato, then, *voûs* is not an "entity" but is just the soul's ability to "see" the ideas or the state in the soul produced by the sight of them. God, therefore, must be soul, "soul having *voûs*" or "enlightened soul". What Cherniss writes here, hardly does justice to the ontology of Plato's later dialogues.

²² The idea of transcendent *noûs* is also intimated by the *Timaeus*. Cf. M. Meldrum, "Plato and the 'APXH KAKΩN'", in *JHSt* 69, 65-74, p. 70. The author convincingly rejects Cornford's view that *voûs δημιουργός* is reason within the World Soul.

scholars, as, for instance, Zeller and Diès, the demiurge, in the last analysis, would be the idea of the Good. A great number of students of Plato, however, identify the demiurge with the world-soul (Burnet, Taylor, Mugnier, Festugière, etc.). There are, in fact, certain passages in the *Timaeus* and in *Laws* X which give the reader the impression that to Plato demiurge and world-soul are the same. Yet a careful analysis of all the texts involved brings to light that soul is also repeatedly said to have come into being and to have been made by *noûs*. Cf. *Tim.* 34c-35a; 36d; 37a; *Laws* 896b; 967d²³. In view of these texts it is impossible to make all *noûs* dependent on soul. — The question of whether, at least on certain occasions, Plato tends to depict the demiurge as belonging to the world of ideas, cannot be answered easily and with certitude. In *Tim.* 36e-37a we read that the demiurge who produces soul is the best of intelligible beings (τῶν νοητῶν ἀεὶ τε ὄντων ὑπὸ τοῦ ἀρίστου ἀρίστη γενομένη)²⁴. Although this text explicitly states that the demiurge is to be ranked in the highest sphere of being, L. Robin feels that these lines alone are not enough to off-set the numerous places where Plato describes the demiurge as looking up to his model, scil. the ideas²⁵. But we may answer Robin's criticism by drawing attention once more to the highly elusive nature of the term *voûs*: the causality of the demiurge concerning the world may well imply that the activity of *noûs* is dependent on the ideas, without implying that Plato subordinated supreme *noûs* in its innermost nature to the ideas. With Verdenius we may perhaps describe the demiurge as the expression of a subordinate activity of the highest principle, in such a way that there remains a gap between the world of

²³ *Phaedrus* 245c-d seems to conflict with these statements in as far as it says that all soul is immortal, a source of movement and as such not the product of becoming. Different interpretations have been given of ψυχὴ πᾶσα ἀθάνατος. See R. Hackforth, *Plato's Phaedrus*, p. 64. We cannot here discuss the question of whether there is a certain opposition between this text and the other places quoted above. The latter do however retain their value.

²⁴ It is a contradiction to translate with Wilamowitz, *Platon* II, 338: of the intelligible and eternal things soul has been brought into being as the best of things by the best of things.

²⁵ *Platon*, 248-251. However, in his *Les rapports de l'être et de la connaissance d'après Platon*, Paris 1957 (posthumous), p. 137, Robin writes that it is difficult to distinguish between the activity of the demiurge and that of his model. Others have rallied to this view. For a survey of opinions see Marcelino Légido Lopez, *El problema de Dios en Platon*, Salamanca 1963, pp. 68 ff. On other readings of *Tim.* 37a *ibid.* p. 128.

ideas and this activity which introduces order into the world²⁶.

A second text which asserts in its obvious meaning that the ideas are god and that they have a causal function is *Tim.* 37c, which calls the world τῶν ἀιδίων θεῶν γεγονὸς ἄγαλμα²⁷. — In *Laws* 716c we read that God is the measure of all things. These words apply to the world of ideas, in particular to the idea of the Good²⁸, yet it is tempting to see in them an intimation of a view which conceives of the Good in a more personal way, or, to put it in other words, which connects certain aspects of the demiurge with the idea of the Good.

It is best, then, to assume that Plato felt that there is *noûs* among the ideas and that the ideas are being known²⁹. Certain texts in the *Laws* confirm this explanation: in 987b *noûs* is placed in the sphere of the One (voûς μὲν προσλαβοῦσα αἰεὶ θεὸν ὁρθῶς θεοῦς). In 962e-963b we read that legislators and wise men must look up to *noûs*³⁰. This is less surprising if we keep in mind the original meaning of the term: *noûs*, rather than denoting the intellect as a faculty, signifies the insight of some hidden truth beyond man, and which comes to man like a revelation. The ideas are the shining truth of things so that their association with *noûs* is not so unlikely as it seems to be at first sight³¹. In fact, in Greek philosophical tradition being and knowledge were sometimes intimately connected, as we may infer from Parmenides' famous line τὸ γὰρ αὐτὸ νοεῖν ἐστὶν τε καὶ εἶναι³².

²⁶ Verdenius, *op.cit.*, 249.

²⁷ Taylor's interpretation, *Comment. on Plato's Timaeus*, 186, and that of Cornford, *op.cit.*, 99, seem forced.

²⁸ Verdenius, *op.cit.*, p. 242.

²⁹ Cf. A. Diès, *Autour de Platon*, 551-552: the Demiurge is the subjective aspect of the world of ideas. See also E. Hoffmann's *Anhang zu E. Zeller, Die Philosophie der Griechen*, II 1, 1098-1105.

³⁰ See E. Dönt, *Platons Spätphilosophie und die Akademie*, *Sitzber. Oest. Ak. d. W., phil. hist. Kl.*, 251,3 Wien 1967, p. 16. Cf. H. R. Schwyzer, 'Plotinos' in *R.E.* XXI, 553-4. See also K. Gaiser, 'Platons Farbenlehre', in *Synousia. Festschrift f. W. Schädewaldt*, Pfullingen 1965, 173-222, p. 184 (in the last analysis subject and object in the ideas are one).

³¹ The identification of *voûs* and the ideas can also be examined from the point of view of self-knowledge. See the next paragraph of this introduction.

³² For a discussion of this text see our next paragraph. Cf. W. J. Verdenius, 'Parmenides' Conception of Light', *Mnemosyne*, 1949, 116-131, p. 126. The theme was used by Empedocles, fr. 109 and we have an echo of it in *Tim.* 37a-c. Cf. P. Kucharski, 'Eschatologie et Connaissance dans le *Timée*', *Archives de Philosophie*, 1966, 5-36, pp. 13-15. See also J. Souilhé, *ibid.*, 1963, 414, n. 73. J. Stenzel writes that the conception of reality as a whole which thinks, sees

A text in the *Seventh Letter* 342a-343a, also points to this association by making a distinction between five levels of knowledge, the first three of which are means of acquiring knowledge (viz. *ὄνομα*, *λόγος*, *εἰδωλον*), the fourth is knowledge, the fifth is *αὐτὸ τὸ γνωστὸν καὶ ἀληθῶς ὂν*. Plato sets forth that *ἐπιστήμη καὶ νοῦς ἀληθῆς τε δόξα* are found on the fourth level (342c); of these three types of knowledge *νοῦς* is by kinship and resemblance closest to the fifth. In this enumeration Plato sees a continuity between knowledge in the knowing subject and its object; *νοῦς* is the comprehensive grasp of the intelligible. Yet there is a higher level of knowledge than this full understanding (343d). It is tempting to read in this text that Plato held that at this highest level the distinction between knowledge and its object vanishes³³. This conclusion would, however, conflict with the epistemology of the *Phaedrus* which presupposes such a distinction.

It would seem that the Early Academy pursued a line of thinking which tended to efface this distinction. For instance, Speusippus is reported to have identified soul with the objects of geometry³⁴. He did, however, not identify *νοῦς* with the Good, which comes at the end of his series of ten levels of being and is localised in the centre of the universe³⁵. Xenocrates considers the supreme principle (Zeus =

and hears, is typically Greek: 'Zur Entwicklung des Geistbegriffes in der griechischen Philosophie', in *Kleine Schriften zur griechischen Philosophie*, Darmstadt 1957, 127-150, p. 134.

³³ See J. Stenzel, *Kleine Schriften zur griechischen Philosophie*³, 151-170, p. 157 ('Der Begriff der Erleuchtung'). G. Jaeger, *op.cit.*, 152-154, thinks that the *ἐπιστήμη τοῦ πέμπτου* is not a new type of knowledge, but knowledge similar to *νοῦς* at the fourth level. K. von Fritz also points out the difficulty that the same term *ἐπιστήμη* is used to signify knowledge at the fourth and fifth levels, but contrary to Jaeger, keeps the door open for a new and highest type of knowledge which would have as its object the *νενοημένον* and *ἀληθῶς ὂν*. See his "Die philosophische Stelle im siebten platonischen Brief und die Frage der 'esoterischen' Philosophie Platons", in *Phronesis*, 1966, 117-153, p. 124. - Jaeger seems to forget that a new class of object implies a new type of knowledge.

³⁴ Cf. Jamblichus, *ap. Stob.* I 49,32 (pp. 363,26 - 364,20 Wachsmuth). Ph. Merlan, in his *From Platonism to Neoplatonism*, draws attention to the fact that this text does not fully agree with *Met.* 1028b18-24 (fr. 33a L) where soul is placed after the geometrical objects.

³⁵ Fr. 38 and 41 L. H. J. Kraemer, *Geistmetaphysik*, 214-217, assumes that the *Νοῦς* comes shortly after the One in Speusippus' hierarchy of being, and quotes Aetius, *Plac.* I 7,20 (*Stob., Ecl.* I 1,29), as well as Jamblichus, *Theol. arithm.*, p. 83,5 (De Falco) (= fr. 4 L) in support. However, these texts do not prove that the *Νοῦς* ranks high in the hierarchy of being. Cicero, *N.D.* I 13,32 charges Speus-

Νοῦς) as prior to the realm of ideas and numbers; his primary being is perhaps not so far removed from the conception of the self-thinking intellect of Aristotle³⁶. H. J. Kraemer admits that Xenocrates' *νοῦς* (God) transcends the world, but he thinks that it should be compared to Plato's demiurge, and hence that it is not the same as the One, such in spite of the fact that it is called *monas* in fr. 15 H³⁷. However, certain parallels with the *Timaeus*, on which Krämer insists, do not prove his point, and one may well wonder whether Xenocrates would not have tried to bring to a certain synthesis Plato's doctrine of the One, the ideas and the demiurge. Kraemer's observation does have the merit, however, of underlining once more that there was a line of thinking in the Academy according to which the supreme principle is beyond being and *νοῦς*. Ultimately this view goes back to the famous statement at *Rep.* 509b (*ἐπέκεινα τῆς οὐσίας*). We hear an echo of it in the only extant fragment of Aristotle's *De oratione*: *ὁ θεὸς ἢ νοῦς ἐστὶν ἢ ἐπέκεινά τι τοῦ νοῦ*³⁸. In later Platonism this doctrine would play an important role³⁹, yet in *Met.* A Aristotle chose another line of thought, according to which supreme *νοῦς* is the ultimate principle. In the *De Philosophia* he had already assigned the plenitude of divinity to *νοῦς*.

This doctrine of a first principle which is *Νοῦς* which thinks of itself, had a profound influence on later philosophy⁴⁰.

When we compare what Aristotle writes in *Met.* A 7 and 9 with the

ippus with atheism; this seems to imply that he did not uphold the doctrine of a transcendent Mind.

Fr. 28 H. - See A. H. Armstrong, "The background of the doctrine that 'the intelligibles are not outside the intellect'", in *Les Sources de Plotin*, Vandoeuvres 1960, 391-413, p. 398.

³⁶ H. J. Kraemer, *Geistmetaphysik*, 59, thinks that *Doxogr. gr.* 304a2ff., where the One, the Good and *Νοῦς* are connected, also refers to Xenocrates' doctrine, notwithstanding the fact that in the text this conception is ascribed to Plato. Kraemer is convinced that the theology of A is intimately related to opinions and doctrines current in the Academy (*op.cit.*, 130). Cf. also his more recent publications 'Zur geschichtlichen Stellung der aristotelischen Metaphysik', in *Kantstudien* 58 (1967), 313-354; 'Grundfragen der aristotelischen Theologie', I and II, in *Theologie und Philosophie* 44 (1969), 363-382; 481-505.

³⁷ 'Grundfragen' II, p. 485.

³⁸ J. Pépin is sceptical as to the value of this testimony. See his 'Aristote "De la prière"', in *Revue philos. de France et de l'étranger*, 1967, 59-70. The author assumes that the fragment shows neo-Platonic characteristics.

³⁹ See J. Whittaker, *ἐπέκεινα νοῦ καὶ οὐσίας*, in *Vigiliae christianae*, 1969, 91-104.

⁴⁰ Cf. Albinus, *Epist.*, c. 10; Numenius, fr. 20 L; Plotinus V 1,9. See W. Theiler, *Die Vorbereitung des Neuplatonismus*², Zürich 1964, pp. 15ff.

theory of the active νοῦς as set forth in the *De anima* certain points deserve to be stressed: the active intellect makes things which are potentially intelligible actually intelligible (430a14), like light makes what is potentially a certain colour to what is actually a colour. However, the active intellect can only exercise its activity, where there is a demand for it, i.e., where there are phantasmata, in which the intelligible things are contained⁴¹. Because the active intellect is there, its likeness is kindled in the passive intellect with the help of the images of sensitive knowledge. Aristotle furthermore says that the active intellect is active by its very essence, and especially the latter point intimates that it is akin to, if not the same as, the self-thinking intellect of A 7 and 9⁴². Furthermore it is χωριστός and eternal⁴³.

Besides the fragment of the *De oratione* which was quoted above, yet another text intimates that there is a principle higher than νοῦς: in the *Eudemian Ethics* 1248a27-29 Aristotle intimates that God is better and more perfect than knowledge and νοῦς,— It is possible to reconcile these statements with the doctrine of A 7 and 9, if we assume that they speak of νοῦς as being the highest degree of human knowledge, which is still far removed from the Supreme Being, which, rather than being intellect, is pure thinking in which the thinking subject, actual thinking, and its object are wholly identical.

⁴¹ 432a4: ἐν τοῖς εἶδει τοῖς αἰσθητοῖς τὰ νοητά ἐστι.

⁴² 430a18: τῇ οὐσίᾳ ὡν ἐνέργεια. Alexander assumes that there is such an identity. See his *In De anima* 89,22-23. In his *Aristotle's Metaphysics*, CXLIII Ross points to a difficulty: the distinction between passive and active intellect is said to be within the soul. Now, this could be explained in such a way as to make divine reason immanent to man, a conclusion which one would hesitate to adopt as typically Aristotelian.

⁴³ *De anima* 430a17 (cf. 1073a3-5) and 430a13 (1072a25).

INTRODUCTION III

SELF-KNOWLEDGE

When Aristotle writes in A 7, 1072b19-21 that νοῦς by coming into contact with its object becomes itself intelligible, and thus indicates that self-knowledge is the supreme achievement and goal of intellectual activity, he is taking up an important theme of Plato's philosophy. In the Socratic dialogues Plato repeatedly mentions the Delphic command γνῶθι σαυτόν. The original sense of these words undoubtedly is that man when entering the dwelling-place of the gods has to remember the limits of his power. But the famous words came to be used in the wider sense of knowledge of one's capabilities, of one's mortal condition¹. According to Xenophon Socrates defined self-knowledge as knowledge of one's force in view of human needs². More than this definition would make us suspect, Socrates was instrumental in making self-knowledge a central problem in philosophy, for onwards from Socrates philosophers became concerned — in an extent and intensity thus far unknown — with their own inner self.

In Plato's thought the problem of self-knowledge is dealt with in several ways: in the *Charmides* the question is discussed whether the knowing subject's act of knowledge can be the object of his knowledge³. T. G. Tuckey analyses the argument of the dialogue as follows: The Good is an objective reality, the same for all men. How can a man who thinks he sees the Good, be absolutely sure that he really does so? — Critias answers this question by insisting on the need of σωφροσύνη.

¹ The Pythagoreans felt that the most difficult thing is to know oneself. Cf. Jamblichus, *V.P.* 83 (DK, I, 464,18). Cf. E. G. Wilkins, *The Delphic Maxims in Literature*, Chicago 1929. — Heraclitus also greatly admired the Delphic maxim (Plutarchus, *Adv. Colot.* 1118c) and his philosophical method consisted in searching his own self (*ibid.* = B 101). By the understanding of himself he was confident to grasp the real structure of things.

² *Mem.* IV 2,25: πρὸς τὴν ἀνθρωπινὴν χρειάν ἐγινωκε τὴν ἑαυτοῦ δύναμιν.

³ This is what is meant by the expression ἐπιστήμη ἐπιστήμης. Cf. T. G. Tuckey, *Plato's Charmides*², Amsterdam 1968, 44.

Now in order to acquire self-control self-knowledge is necessary⁴ and he suggests that the Delphic inscription means self-knowledge. Critias is not speaking of self-knowledge in a metaphysical sense. What he has in mind probably is that people of the lower class should admit their inferiority, whereas the born ruler should know his strength and his mission⁵. But at this point the discussion takes an unexpected turn: Critias adds that σωφροσύνη must be different from all other sciences in that it is αὐτὴ τε ἑαυτῆς καὶ τῶν ἄλλων ἐπιστημῶν ἐπιστήμη⁶. Analysis of the context shows how this definition was reached. All other sciences have an 'object' or 'work' which they perform. σωφροσύνη is not a science of something but of itself (and of the other sciences)⁷. This probably means that contrary to other virtues σωφροσύνη does not have a special limited task: it has a directing and regulating function with regard to man's entire life and does so by manifesting itself, i.e., by being the reflection of goodness in the soul⁸ or, to put it in other words, is knowledge of his knowledge of the good⁹. Thus there is a relation between self-knowledge and knowledge of the good, even if verbally speaking the transition from ἐπιστήμη ἑαυτοῦ to ἐπιστήμη ἑαυτῆς is illegitimate.

Onwards from 167c the discussion is centered around the concept of 'knowledge of knowledge'. Socrates points out that 'sight of sight', 'hearing of hearing' are meaningless, or, rather, impossible. But he maintains that there is knowledge of knowledge. It does not become very clear what Plato has in mind. Perhaps he dimly realized that the object of knowledge is being, and that therefore an act of knowledge is also knowable, since it is a being itself. In 172a-b Socrates says that Critias and he himself assigned too great a role to σωφροσύνη, and suggests it might be no more than the knowledge which allows us to

learn more easily and to understand things better¹⁰. Yet on closer inspection of the dialogue there is little doubt that Plato is feeling his way towards a science which is the intuition of a supreme principle¹¹ or a science which is not dependent on something else, but is knowledge by itself. What Plato is trying to say here takes, in his later dialogues, the form of the theory of recollection and of the theory of ideas¹². In fact, the last section of the dialogue makes it plain that σωφροσύνη is the knowledge of the Good.

While the *Charmides* confronts the reader with the problem of self-knowledge by means of an examination of σωφροσύνη and of the question how we may be sure that we strive for the Good, in the *Lysis* the theme of friendship serves as a point of departure for the study of self-knowledge. Plato argues that we love a friend because of something good in him. But we often desire one good thing in view of another. Hence in order to arrive at a foundation of our friendship there must be a first object of friendship (τὸ πρῶτον φίλον, 219c-d). In the last part of the dialogue it is argued that we desire what we do not possess and what is lacking¹³. To be deficient of something means being deprived of something which is proper (οἰκεῖον) to us. For this reason one desires a friend in order to be fully oneself and friends are φύσει πᾶς οἰκεῖοι (221e). Plato recalls that likeness between friends does not adequately explain the rise of friendship, and suggests that we must perhaps distinguish between 'what is like' (τὸ ὅμοιον) and 'what belongs to one's nature' (τὸ οἰκεῖον). However, he does not further elaborate on this and the discussion is broken off, without that any definite solution has been reached. Yet the following points may be considered as acquired: Man needs friends in order to return to himself; friendship aims at achieving man's essential being, and so leads to contact with the Good (218b-220b). In his *Eudemian Ethics* Aristotle takes these Platonic insights as his starting point when establishing his own doctrine of friendship.

⁴ Some scholars think that the attempt to define σωφροσύνη as 'knowledge of knowledge' failed, or that the passus is irrelevant to the main argument of the dialogue. See Tuckey, *op. cit.*, 33-37, who shows that the definition is central in the dialogue.

⁵ Cf. a related expression in *Phaedr.* 247d: καθορᾶ δὲ ἐπιστήμην (the knowledge of true being).

⁶ See Tuckey, *op. cit.*, p. 41 and A. J. Festugière, *Contemplation et vie contemplative selon Platon*³, Paris 1950, p. 213.

⁷ 221e: τὸ δ' ἐνδεὲς ἄρα φίλον ἐκείνου οὐ ἂν ἐνδεὲς ᾖ.

⁴ *Charmides* 164d.

⁵ U. Wilamowitz, *Platon*², I 200.

⁶ 166c. In the previous lines σωφροσύνη had been described as the knowledge of oneself (165c. Cf. 165d: ἐπειδὴ φῆς αὐτὴν ἑαυτοῦ ἐπιστήμην εἶναι).

⁷ T. G. Tuckey, *op. cit.*, 38 thinks that the formula combines the Delphic inscription 'know thyself' and the Socratic saying 'virtue is knowledge'.

⁸ Cf. 159a: εἴπερ ἔνεστιν (ἀνάγκη) αἰσθησθῆναι τινα παρέχειν ἐξ ἧς δόξα ἂν τις σοὶ περὶ αὐτῆς εἴη. — H. R. Schwyzer, "'Bewusst' und 'unbewusst' bei Plotin", in *Les sources de Plotin*, Vandoeuves 1960, 341-390, pp. 360f. draws attention to this text and argues that σωφροσύνη, as a form, cannot fail to make itself known. Schwyzer's article is of particular importance because it deals with the meaning of the terms σύνεσις, συνείδησις, συναίσθησις and παρακολούθησις.

⁹ Tuckey, *op. cit.*, 107.

In his *First Alcibiades* Plato writes that man is not wholly identical with his body. The dominant part of man is soul (130d). Now soul must look at intelligible being in order to know itself. Plato illustrates what he means by an example: like we see ourselves reflected in the pupil of the eye of a friend, likewise we learn what we are and who we are by looking at ideal being. This doctrine presupposes the conviction that the soul is akin to the ideas, and furthermore, that a direct introspection of one's own being is not possible, or does not yield concrete results¹⁴. – From this dialogue we learn that self-knowledge is the terminus of a long road which man is not able to reach at once¹⁵.

The insight that by looking at something else man may come to know himself, is further elaborated in the *Phaedrus*: seeing a beautiful object the soul is reminded of true Beauty¹⁶. Man has within himself an element of this divine Beauty: "And if they have not aforetime trodden this path, they now set out upon it learning the way from any source that may offer it, or finding it for themselves; and as they follow up the trace *within themselves* of the nature of their own god their task is made easier in as much as they are constrained to fix their gaze upon him"¹⁷. Plato intimates that by looking at a friend, by being together with a friend ἐνθουσιασμός is generated which involves a concentration of the soul upon itself¹⁸. Plato qualifies this process as taking place in (by) recollection (καὶ ἐφαπτόμενοι αὐτοῦ τῇ μνήμῃ). A statement in 249c (πρὸς ὅσπερ θεὸς ὢν θεϊὸς ἐστίν) explains this: a god is truly divine because of his nearness to the divine. Plato appears to make a distinction between the subject and its most formal essence.

¹⁴ See R. S. Bluck, 'The Origin of the Greater Alcibiades', *Class. Quart.*, 1953, 46-52. Bluck points to a number of striking resemblances between the doctrine of this dialogue and certain statements in Aristotle's early works.

¹⁵ Cf. 133c. This text asserts that when the soul thinks of God it thinks itself; the relationship between the soul and God is based upon the fact, that God is clarity and thought.

¹⁶ Not all absolute realities shine in the same way in visible things. For instance, the earthly likeness of justice and temperance is not so clear as that of beauty, 250b-d.

¹⁷ 252e-253a (translation by Hackforth). Hackforth adds in a note: "The phrase... seeks to express the notion that the vestige of Zeus' nature within the soul of his votary affords a starting-point for his discovery and imitation of that nature in its fullness".

¹⁸ It seems best to construct συντόνως with βλέπειν (as an hypallage). Cf. F. Ast, *Lexicon Platonicum*, 3,340. Robin, however, translates "d'une intense nécessité". – The same thought is also expressed in 255d: in a friend one may, like in a mirror, contemplate oneself.

In spite of this distinction there is only one being. Likewise in the process of recollection, man turns to what is most formally man. This is at the same time his likeness with the divine¹⁹.

In 253a-b he points out that the lover tries to create in the beloved the greatest possible likeness with his own god. – It would follow that the beloved is not a complete likeness, but helps to evoke in the lover the latter's likeness with god, which he then wants to create in the beloved.

In the remarkable text of *Tim.* 37a-c Plato assigns to the human soul a natural movement which imitates that of the world-soul, viz. the soul revolves upon itself (αὐτὴ τε ἀνακυκλουμένη πρὸς αὐτήν). In this process of revolving the soul comes into contact with the objects of its thought and pronounces in which respect and how things are the same and different. – Unfortunately, Plato does not further elaborate on the precise relation of self-knowledge and knowledge of the world, except in so far as to intimate that the object known is recognized as part of oneself or as agreeing with part of one's own being²⁰.

In *Tim.* 90a-d Plato speaks of the task man has to cherish 'the divine part' within himself. This best part of man is mind which is akin to the heavens. By studying the thoughts and movements of the celestial bodies, man nourishes his soul and according to its original nature makes it into a likeness of that which is thought²¹. We may express this also as follows: by contemplating the intelligible object to which it is akin, the mind comes to know itself, and actualizes in clarity the deepest essence of its being.

Another important text is the *Epinomis* 988b. In the previous section of the dialogue the Athenian has been speaking about the visible gods, i.e., the stars and the bodies we can perceive as existing together with them. For man it is best to spend his days in the study of these gods, who deserve to be worshipped. In 986d we read that man who is a unity himself partakes in wisdom which is one (μεταλαβὼν φρονήσεως εἰς ὃν μίαν).

In *Epin.* 987d-988b the Athenian expresses the hope that the

¹⁹ *Phaedr.* 249c is significant in that it intimates a distinction between the subject and its formal nature in the divine, yet leaves their unity of being intact. This could provide a clue as to how Plato envisaged his supreme principle, or placed thought in the realm of ideas.

²⁰ See P. Kucharski, 'Eschatologie et connaissance dans le *Timée*', in *Archives de Philosophie*, 1966, 5-36, pp. 13-15.

²¹ 90d: τῷ καταννοομένῳ τὸ καταννοῦν ἐξομοιωσάι κατὰ τὴν ἀρχαίαν φύσιν.

Greeks will better observe the true cult of the celestial bodies than the non-Greeks from whom they had first learned it. The Greeks should avail themselves of the oracle of Delphi and while obedient to their laws not think that it is forbidden to study the celestial bodies: deity (τὸ θεῖον) is not ignorant of human nature (οὔτε ἀγνοεῖ, 988a). If deity guides man and teaches him, man will follow and will learn number and counting (math. relations). If God would not know this, he would not know himself²². – In this significant passus three things are compared: celestial bodies, numbers, human nature, – and knowledge of one of them is said to be knowledge of the other. God knows himself and therefore he looks down with favour upon the man who studies the celestial bodies, because this study brings man closer to God. Man must strive for self-knowledge. He does so when he desires to know the laws which rule the celestial bodies.

From the texts quoted we gain the impression that for Plato self-knowledge is the fulfilment of human knowledge. It may be reached by the study of the essence of things. Deity is fully aware of itself²³.

In some of his works Aristotle comes back to the Platonic doctrine of self-knowledge and further elaborates it. In *Protrept.* B 102 (Düring) he writes that we ought to honour most our parents as they are the authors of our thinking. The soul seeks that which is knowable and finds its pleasure in its knowledge. Familiar things are knowable, and what is knowable must be loved.

Another early work, the *De philosophia* fr. 12a Ross, shows that Aristotle considered the soul's main task 'to be on itself', a state which may be attained in sleep: ἐν τῷ ὑπνοῦν καθ' αὐτὴν γένηται ἡ ψυχὴ τότε τὴν ἰδίον ἀπολαβεῖσα φύσιν.

In the *Nicomachean Ethics* IX 4 Aristotle defines a friend as one who wishes and does what is good for the sake of his friend, – or one who wishes him to live for his sake, – or one who lives together with one and has the same tastes, – or one who rejoices and grieves with another. – H. von Arnim suggested that these successive definitions are likely to refer to Academic discussions of friendship. – On this

occasion Aristotle observes that this love for a friend is also felt for oneself: the human individual wishes to continue to live and desires his own good: he wishes to think and to enjoy. Aristotle adds that the thinking faculty is most properly what man is (τοῦ γὰρ διανοητικοῦ χάριν, ὅπερ ἕκαστος εἶναι δοκεῖ). Aristotle here considers being-man as being-νοῦς and speaks of a fundamental self-love²⁴. Once arrived at this point the conclusion that self-awareness is man's central task, is no longer far away. Ultimately all friendship is patterned after man's relation to himself (1168b5). Nobody wishes to become another. He who leads an intellectual life, wishes to be with himself, for his mind has much to contemplate: συνδιάγειν τε ὁ τοιοῦτος ἑαυτῷ βούλεται ἡδέως γὰρ αὐτὸ ποιεῖ (1166a23).

In *E.N.* IX 9, 1169b30 - 1170a13 Aristotle writes that it is easier to contemplate our neighbours than ourselves, and their actions than our own. When we have friends, it is easier to be continuously active. – In the following section Aristotle adds that the desirability of friends becomes even more obvious when we look at the nature of things: life is desirable; perceiving that we live is most desirable. To be aware of the existence of friends is, therefore, also a great good²⁵.

In the *Eudemian Ethics* the theme of friendship in its relation to self-knowledge is treated by Aristotle in VIII 12, which is the most detailed text in the *Corpus* on the subject. The discussion opens with an objection: the happy man does not seem to need friends. This is particularly manifest in the case of God. Aristotle then suggests that we love our friends because they are good. In 1244b22 he turns to the central issue: perception and knowledge are most desirable for each man individually; however, what gives joy is not so much knowledge in general as awareness of the fact that we ourselves are knowing: when knowing we become ourselves the object known²⁶. By this Aristotle means that knowledge is a process of growth in which the knowing

²² Dirlmeier in his commentary, p. 544, and Gauthier and Jolif, II 728, point out that Aristotle's doctrine here is close to that of Plato. One may compare the passus to *Rep.* 433d where an ἐντὸς πράξις is mentioned concerning man's real self, i.e., a regulating of his strivings and faculties (with Adam I connect ὡς ἀληθῶς with περὶ ἑαυτόν). Cf. also *Laws* 959a-b (by our soul we are what we are); *Protr.* fr. 6 Ross (= Düring B 62): ὡς ἦτοι μόνον ἢ μάλιστα ἡμεῖς ἐσμεν τὸ μόνον τοῦτο (i.e., soul which has reason and thought); fr. 10c Ross (= Düring B 108); *E.N.* X 7, 1177a15-16.

²³ 1170b10: συναισθάνεσθαι ἄρα δεῖ καὶ τοῦ φίλου ὅτι ἐστίν.

²⁴ 1245a10: ὅτι αὐτὸς εἶναι τὸ γνωστόν. – This section of the chapter has a doctrine quite similar to that of A 7.

²⁵ For the proverb 'he does not know who he is', see *Epist.* VII 341b: some philosophers do not know who they are (οὐδ' αὐτοὶ αὐτούς); self-knowledge is a basic requirement for philosophical studies.

²⁶ The frequent texts in which Plato stresses the importance of awareness of one's activities, of oneself (συνειδέναι) also point to the importance of self-knowledge. – Cf. also texts like *Phaedo* 78b: δεῖ ἡμᾶς ἀνερεσθαι ἑαυτούς, and terms like οἰκεία ἐπιστήμη and ἀναλαμβάνειν.

subject is enriched and comprehends the intelligible treasures of other things, and also that it becomes itself actually known in the process. Aristotle considers the desire to be oneself the object known as connected with (or even as the basis of) the desire to know, i.e., as man's most fundamental desire.

An intermezzo follows in which the objection is raised that ultimately it does not make much difference whether we live in the society of others or not, since one can think as well by oneself. In 1245a26 Aristotle returns to the main argument, which is centered around the thought that a friend is by nature intended to be (βούλεται εἶναι)²⁷ another self. – Things are in a state of division and disruption²⁸ and it is difficult for them to become united²⁹. Yet, what is akin *by nature*, is most akin³⁰, and thus a friend who has much in common with his friend, is a 'separate self' (αὐτὸς διαίρετός). – The metaphysical contents of this passus are that although human individuals are separated from each other, there is desire for unity, especially in things which are akin. In the process of perceiving a friend, one perceives oneself: in general, being together is most pleasant.

From the above we may infer that friendship contributes to self-knowledge and is subservient to it. Man's end and happiness consist in knowledge of the self, which comprizes the ontological treasures of one's being, as well as fulness of activity and awareness of it.

The *Nicomachean Ethics* adds some details to this survey of the reasons for friendship, omitting to speak of certain points which are

²⁷ On this sense of βούλεται see Bonitz, *Index* 140b41.

²⁸ The Greek has διέσπασται δέ which is rendered by Solomon 'but he is severed from his friend', by Rackham 'the characteristics are scattered' (R. is thinking of *Rep.* 503b and ch. 6, 1240b30; however, a more fundamental question is at stake); Dirlmeier, quite correctly, translates: "Da ist nun einmal das Auseinander". I would suggest to take πάντα as the subject of the verb (cf. Kühner-Gerth, I 35e).

²⁹ ἐφ' ἑνὸς γενέσθαι. Dirlmeier's translation ('es ist schwer dass Einheit entstehe') is decidedly better than those of Solomon and Rackham. – In view of a similar expression in *E.N.* 1167b6 (ἐπὶ τῶν αὐτῶν ὄντας), one might perhaps take the words to apply to activity of knowledge and desire rather than to substantial being ('to have concerted activity').

³⁰ The Oxford Translation has 'though a friend is by nature what is most akin to his friend'; Dirlmeier has (excising δ): 'zwar ist von Natur aus (Gleiches mit Gleichem) höchlichst verwandt'. It seems better to take δ συγγενέστατον as the subject of the sentence 'what is most related is found, etc.'. In Greek the predicate must often be supplemented from the subject and *vice versa*. – Cf. Kühner-Gerth, II 564, and Plato's *Meno* 89a and *Prot.* 344d.

central in the account of the *Eudemian Ethics*: although we desire continuous activity, this is not possible; because the activity of a friend may, in a sense, be called our own, friendship allows us to have a more continuous activity³¹.

A second reason of why there is friendship is to increase our awareness of our own being: perception and thinking are accompanied by awareness; to know that one is, is the most pleasurable of things, a friend being another self, we also find joy in knowing him and his activity³². – Aristotle here uses the term συναισθάνεσθαι. By this he does not mean plain reflective consciousness, because such an awareness is impossible while observing a friend; it rather signifies awareness of what a friend is thinking and feeling, i.e., a sharing in the experience of a friend³³.

Unlike the *Eudemian Ethics* the *Nicomachean Ethics* here do not mention the theme that by knowing one becomes known, yet the explanation given of friendship can be reduced to the doctrine that friendship promotes self-awareness and joy: the being and activity of a friend may be considered a sort of mirror in which we recognize who we are ourselves; moreover, the being and activity of a friend are, in a sense, our own so that by friendship we grow in depth and extension.

In view of certain parallelisms between *E.E.* VII 12 and *Met.* A 7 there can be no doubt that when Aristotle wrote about friendship he had in mind the eternal bliss of the self-knowing first principle, and that also his conception and experience of friendship influenced his doctrine of the Supreme Nous³⁴.

If we study chapters seven and nine of Book A against the background of these texts on the meaning of friendship, it becomes apparent that *a fortiori* God's thinking must concern his own being and that "the thinking of thinking" is the supreme form of self-knowledge. Far from being an objectless returning to oneself, this knowledge concerns the very being of the First Principle. It would also seem to follow that

³¹ *E.N.* IX 9, 1170a4-8; *E.N.* VIII 1, 1155a14-16.

³² *Ibid.*, 1180a16.

³³ Gauthier-Jolif understand συναισθάνομενοι in 1170b4 as signifying 'awareness', but Dirlmeier has the meaningful translation "ein einbeziehendes Bewusstsein auch vom Dasein des Freundes haben". Cf. also S. Thomas, *In IX Eth.*, lect. 11, 1909 (ed. Marietti).

³⁴ It is possible that A 7 precedes *E.E.* VII, 12; however, I am not so sure about this as H. von Arnim in his *Eudemische Ethik und Metaphysik*, *Akad. der Wiss. in Wien. Sitz. ber.* 207,5 (1928), p. 25.

just as knowing a friend is a certain degree of self-knowledge because of the ontological kinship between the self and a friend, God, in knowing himself, also knows, to a certain degree, the essential principles of things in as far as he is the *first* being encompassing within himself the perfections which other beings possess. This would, however, not imply that the first being would know the world as distinct from himself or as dependent on himself.

INTRODUCTION IV

ὍΡΕΞΙΣ

In A 7 the unmoved Mover is said to move the world as the object of desire.

A special difficulty in Aristotle's theory is the question of which is the cause or condition of the rise of desire in the first heaven. Is it knowledge and contemplation? Why does not knowledge alone produce the circular motion? Is the desire of the first heaven not incapable of attaining its end and of becoming like the first Mover?

Ever since Empedocles introduced Love and Strife to explain process and movement in the cosmos, 'desire' became a topic for philosophical discussions. To Empedocles Love is both a psychological and a physical reality; it is a force which is at work in the macrocosmos as well as in the microcosmos.

Plato deals with the concept of desire in his *Symposium*: in order to fashion the perfect man who is to steer the state, virtue has to be taught and desire must be educated. But the reason why Plato deals with desire is more than educational: to him Eros is the central force in the cosmos which takes on several forms and pursues different ends. Yet, as he points out in Diotima's discourse, the common object of all eros is to possess for ever that which is good. In all its forms Eros reaches out for something beyond². Mortal things desire to exist for ever. In the *Phaedo* this is stated in terms of the theory of forms: the objects of sense perception strive to attain the purity of the ideas¹. The cause of the rise of this desire is the fact that sensible things are an image of the true reality; therefore they turn to it³. This desire must be related to the peculiar activity or movement which each

¹ *Symp.* 206a. Cf. F. M. Cornford, 'The Doctrine of Eros in Plato's *Symposium*', in *The Unwritten Philosophy and Other Essays*, Cambridge 1950, 68-80, p. 74.

² Cf. *Phaedo* 75a-b: ἐκείνου τε ὁρέγεται τοῦ ὃ ἔστιν ἴσον.

³ *Ibid.* 74d: βούλεται μὲν τοῦτο ὃ νῦν ἔγω ὁρῶ εἶναι οἷον ἄλλο τι τῶν ὄντων· ἐνδεῖ δὲ καὶ οὐ δύναται τοιοῦτον εἶναι οἷον ἐκεῖνο, ἀλλ' ἔστιν φαυλότερον.

species of bodily being has. For Plato it was a basic problem to grasp and to analyse the relation which exists between beings on the different levels of reality, more in particular between the intelligible and the perceptible worlds. The basic function, the basic desire of things is to reach the form in which they partake, or to become its more perfect image. This desire is at the origin of their activity. One may also express this in terms of συγγένεια: kinship with forms is the ultimate ground for desire and striving.

Plato does not go into details in his account of the rise of desire in man, nor does he make very clear which is the relation between basic ontological striving and elicited desire. This absence of a detailed explanation may perhaps be related to a seeming inconsistency in Plato's doctrine of the human soul: according to the *Phaedrus* the essence of soul is self-motion; even soul separate from body comprises lower elements, but according to a number of other texts it is the union with a body which creates impurity and imperfection in the soul⁴. It is possible that Plato felt that after having been purified soul returns to its true nature and that its strivings are sublimated⁵. We may perhaps think here of the energy of desire turning into the activity of noûs. When Guthrie writes that "instead of defining noûs as the highest part of a tripartite soul, we can also describe it as the power of soul when all its energies are directed to the pursuit of wisdom", we agree, but want to stress that Plato always maintained a distinction between noûs and desire: desire is man's very nature, but noûs is the presence of the divine in man, i.e., it is a dimension to a beyond. To this beyond, man's desires, after having been unified, should be directed. This is perhaps what Plato wants to say when at the end of the *Timaeus* 90c-d, he writes that man should follow the "thoughts and revolutions of the universe because these are akin to the divine part within him" (τῷ δ' ἐν ἡμῖν θεῷ συγγενεῖς). According to this text man's noûs is what connects him with the divine: in his noûs the movements of the heavens should be reflected.

⁴ Cf. R. Hackforth, *Plato's Phaedrus*, Cambridge 1952, pp. 75-77, who states the problem as follows: "Plato wavers to the end between the religious, Orphic-Pythagorean conception of a divine soul essentially divorced from all physical functions, all 'lower' activities, and a more secular and scientific conception of soul as essentially a source of motion to itself and to τὰ ἄλλα."

⁵ This is the solution W. K. C. Guthrie proposed. See his 'Plato's Views on the Nature of Soul', in *Recherches sur la tradition platonicienne. Entretiens sur l'Antiquité classique*, III, Genève-Vandoeuvres 1953, 3-22.

Among the members of the Academy Eudoxus upheld a novel theory, according to which all activity springs from the desire of pleasure. He made ὁρεξις a fundamental striving in things; it is at once desire of the good of its subject, and desire of pleasure which is following upon activity⁶.

Aristotle remains quite close to Plato, when he writes that the noûs is a divine element in man⁷. In *E.E.* VIII,2 1248a16ff. he deals with the question of the rise of desire of the right thing in man: chance cannot be its cause. Rather, the divine must be said to be the origin of thought, deliberation and desire for the right thing, in as far as the human mind is rooted in something vaster than itself; this encompassing reality pervades and influences it⁸. The following points of this statement deserve to be stressed: there must be a starting-point for desire in the human mind (thought, deliberation, desire); this starting-point cannot be chance, for the origin of thought in the human mind must show a certain analogy with that of movement in the cosmos; God is the cause of movement in the cosmos, so also of movement in us. — Aristotle writes that the cause of the rise of thought is τὸ ἐν ἡμῖν θεῖον. This is neither God (for a distinction is made in the context), nor human nature (for it is something superior to human knowledge. To determine the precise meaning of the term we must perhaps read the passus against the background of the Socratic identification of τὸ θεῖον and ἡ φύσις, as well as of certain texts like *De natura muliebri* VII, 312 Littre: μάλιστα τὸ θεῖον ἐν ἀνθρώποις αἰτίον εἶναι. We may also compare the *De philosophia*, fr. 12a W. In the latter text Aristotle deals with man's inner experience as a source of religious belief. The wording of the text as given by Sextus Empiricus, *Adversus Math.* III 20-23, has been influenced by Stoic terminology, yet contains authentic Aristotelean thought⁹. It would seem that we have to do here with a view which considers the human mind as part of an en-

⁶ G. Lieberg, *Die Lehre von der Lust in den Ethiken des Aristoteles* (Zetemata 19), München 1958, p. 53. — With H. J. Kraemer one may perhaps also ascribe to Xenocrates the doctrine that the supreme principle is desired by the world-soul and thus, in a sense, is a cause of movement. Cf. Plutarchus, *De Iside et Osiri* (Heinze, *Xenokrates*, 30ff.: 67f.). See H. J. Kraemer, in *Kantstudien* 58, p. 326. ⁷ *E.N.* 1177b27. See *Protr.* fr. 10c (= Düring B 108-110).

⁸ δῆλον δὲ: ὥσπερ ἐν τῷ ὅλῳ θεὸς καὶ πᾶν ἐκεῖ κινεῖ. κινεῖ γὰρ πῶς πάντα τὸ ἐν ἡμῖν θεῖον.

⁹ Cf. *De caelo* 270b5-6: πάντες γὰρ ἄνθρωποι περὶ θεῶν ἔχουσιν ὑπόληψιν. See also Cicero, *De divin.* I 38,81: Aristoteles eos... censebat habere aliquid in animis praesagiens atque divinum.

compassing divine mind; when man's own reasoning activity is suspended (*Eud. Ethics* 1248a40-b1), knowledge about God easily enters the human mind because of a sort of continuity between the latter and the absolute mind.

Returning to *E.E.* VIII 2 we are faced with the question of whether Aristotle is thinking of the efficient or of the formal cause of thought and desire. Judging from the context it would seem that the efficient cause is meant, for Aristotle speaks of inspiration¹⁰.

A somewhat similar view is expressed in *E.N.* 1153b31-32, where the fact is mentioned that all things pursue pleasure because they have something divine within themselves. Aristotle does not further elaborate on this, but it is tempting to assume that the principle of imitation is envisaged: since God's activity is pleasure, things at the other levels of being also pursue their own well-being. Apparently supreme reality is imitated by beings at a lower level; in this text there is no question of any intervention by God; things act according to their own nature.

G.A. 731b18ff. states that τὸ καλὸν καὶ τὸ θεῖον are the cause of what is better in things which admit of it. From the context it becomes clear that by 'cause' Aristotle means final causality (τὴν αἰτίαν τὴν ἕνεκα τινος). A similar statement is made in *Met.* 1013a21: πολλῶν γὰρ καὶ τοῦ γινῶναι καὶ τῆς κινήσεως ἀρχὴ τἀγαθὸν καὶ τὸ καλόν¹¹. This text envisages animals, not inanimate things. Quite close to this statement is *Phys.* 192a16-19 where Aristotle argues that there is a divine being which is good and the object of desire. There are things which are contrary to it, but these do not desire it. There are other things which desire it according to their nature. – He has in mind things which are potentially something and aspire to become it in actuality.

In the *De anima* 415a26-b7 Aristotle sets forth that all living things desire to share in the eternal and the divine; all activity is in view of the divine¹². This text intimates that all activity in view of a particular purpose aims through the medium of this particular good at the supreme being. Now this presupposes that the particular good possesses and reveals part of the perfection of the universal good. If we cannot speak of participation, the least we must say is that the things

¹⁰ Dirlmeier rightly stresses this in his commentary, 490.

¹¹ Aristotle does not say here whether this good is the common good of the entire universe or the particular end of one class of things.

¹² Cf. 415b1: πάντα γὰρ ἐκείνου ὁρέγεται καὶ ἐκείνου ἕνεκα πράττει ὅσα πράττει κατὰ φύσιν.

of lower rank in the hierarchy of being reproduce some aspect or part of the first being, – and that the universe is a coherent whole¹³.

In the *De anima* III 9 and 10 Aristotle investigates which are the sources of motion in animals. He first points out a fact of experience, viz. that the *object* of desire (τὸ ὁρεκτόν) is primary; it is the starting point of the activity of τὸ λογιστικόν. Aristotle's considerations are rooted in an empirical approach. He excludes the theoretical intellect from initiating desire¹⁴. This hardly agrees with the tenor of *A* 7, where a pure νοητόν, obviously perceived by the theoretical intellect, is the starting point of desire. The opposition between *A* 7 and the *De anima* can perhaps be alleviated by insisting on the fact that *Met.* *A* 7 envisages the nous of the celestial bodies, and not human thought. Granting this distinction the fact remains that the explanation of the rise of desire in *A* 7 is less elaborate. A second point on which there is a difference between both texts is that the *De anima* ultimately reduces the beginning of desire to the ὁρεκτικόν, while in *Met.* 1072a29-30 Aristotle establishes the priority of nous¹⁵. One might attempt to reconcile the texts by assuming that also in the *De anima* Aristotle admitted a certain influence of the intellect on desire, viz. not in the order of efficient causality, but in that of formal causality. However, in *Met.* *A* 7 no such distinctions are made, and theoretical reason is depicted as setting the first heaven in motion, so that there remains a divergence of approach, if not of doctrine. This has its roots in the ambiguity of the explanation of the origin of movement by Greek philosophers: viz. on the one hand, they considered the immanent nature of bodily being the source of movement, without the interference of an external force, on the other hand, certain philosophers stressed the forces working from outside, as for instance, the hot *qua* hot, Love and Mind¹⁶.

For Plato soul is the cause of all movements, yet in certain texts he seems to consider the nature of the size and shape of things the cause

¹³ On this point Aristotle's theory differs from Plato's doctrine of a fundamental ὁρεξις in that there is no question of leaving behind one's own level of being and that a thing's πράξις is this desire. Moreover, Aristotle appears to restrict ὁρεξις to animals. In Plato's ontology every form may be said to be desirable, and it would seem that matter and material things not only desire a limited share in a form, but its very perfection.

¹⁴ Cf. 433a29: οὐ πᾶν δέ, ἀλλὰ τὸ πρακτικὸν ἀγαθόν.

¹⁵ 1072a30: ἀρχὴ γὰρ ἡ νόησις.

¹⁶ See E. Grumach, *Physis und Agathon in der alten Stoa*, Berlin 1932, pp. 50ff.

of process and change. In his *Sophistes* 247d-248a Plato writes that bodiless things as well as things which have a body, have something essential in common, viz. the power to act (or to be acted upon). This power is a primary characteristic of being. Even if the importance of this statement should not be overrated¹⁷, it is tempting to read in it an intimation of the doctrine that being is actuality. – In *Tim.* 56d-57d Plato points out that the shape and size of the elements are a cause of process and change. It is not clear how this is to be reconciled with the theory of the *Phaedrus* according to which soul is the absolute beginning of all movement¹⁸. This ambiguity concerning the cause of movement is also visible in the *Corpus*: sometimes Aristotle appears to be dealing with the formal and final causes of movement, sometimes with the efficient cause. In his deduction of the existence of a First Mover in *A 7* Aristotle stresses the function of *δρεξις*, but does not examine which is the efficient cause of desire. He does not seem to admit a direct efficient causality of the First Mover on the *noûs* of the first heaven, but he may be presupposing throughout a continuity and *συμπάθεια* between the First Mind and mind in the cosmos.

We must also recall here the difficulties inherent in Plato's doctrine of the tripartition of soul, – difficulties which are not fully solved in the dialogues. Do the lower parts of soul always and of necessity belong to it? The answer to this question lies perhaps in a suggestion made by Guthrie: the more purified and perfect soul is, the more its energy is channelled into a desire of wisdom, of which *noûs* is the ontological 'Sitz' as well as the expression¹⁹. It is not unlikely that the doctrine of *Met. A 7* is related to Plato's theory of soul as the origin of movement; but Aristotle transposed it and made the supreme Mind (which has the highest function of soul) to an unmoved activity.

Aristotle's doctrine of the origin of movement is further complicated by a shift in the meaning of the term *δρεξις*. In Plato's dialogues the noun does not yet occur, but the verb *δρέγεσθαι* does. Aristotle likewise uses *δρέγεσθαι* (and *ἐφλεσθαι*) to denote a desire of nature to reach perfection. Cf. *G.C.* 336b28: *ἐπεὶ γὰρ ἐν ἅπασιν αἰεὶ τοῦ βελτιόνος δρέγεσθαι φάμεν τὴν φύσιν*. But besides this occurrence of a broad sense of the term

which the scholastics describe as *appetitus naturalis*, Aristotle prefers to use the terms 'desire' and 'strive' for living things as we may infer from texts like *E.E.* 1218a27. As to the noun *δρεξις* Aristotle seems to have used it at first to express the desire of the irrational part of the soul, but later the meaning of the term became wider, so as to signify (also) the desire of the rational part of the soul (*τὸ λογιστικόν*)²⁰. Cf. *E.E.* 1224a23 and 1226b17. Aristotle does however assign a certain priority to the basic natural desire of things. In 1244b27 he mentions a basic desire of all living things, viz. to be alive, and in 1247b18 he states that both the rational and irrational parts of soul have their own *δρεξις*²¹. The word became a technical term²², which may designate both *ἐπιθυμία* and *βούλησις*²³.

In the first Book of the *Metaphysics* Aristotle examines the theories of earlier philosophers with regard to the question of causality. As a result of this analysis he concludes that none of them made a clear distinction between the four types of causality. Aristotle felt that he himself was the first to see the necessity of a special cause of motion, distinct from the nature of a thing as well as from its end. In *P.A.* 703a4 he writes that for animals this *αἰτία τῆς κινήσεως* is their *δρεξις*, which moves while being moved. Aristotle probably means by this that the *δρεκτικόν* is moved by the object in the order of final and formal causality, but that it is itself a cause in the order of efficient causality²⁴. In *A 7* the rise of desire in the first heaven is not explained. Aristotle suggests that all strivings follow thought²⁵, and that thought is dependent on the presence of an ever actual thought. It is perhaps best to assume that this *δρεξις* of the first heaven is always in a state of actuality, and so does not need an efficient cause to arise. It can be said to be dependent on the First Mover in as far as this striving which is activity and circular movement, expresses in its own way

²⁰ H. von Arnim, *Die drei aristotelischen Ethiken*, p. 271. Cf. Gauthier et Jolif, *L'Ethique à Nicomaque*, II 95.

²¹ Cf. *De anima* 432b6-7: *εἰ δὲ τρία ἡ ψυχὴ ἐν ἑκάστῳ ἐστὶ δρεξις* (over against Plato Aristotle speaks of two parts of the soul).

²² This may be inferred from *De anima* 433a31 and Theophrastus' *Metaph.* 6a9.

²³ Cf. *De anima* 411a28; 414b12; 433a23ff.; *Rhet.* 1386a10.

²⁴ Cf. *P.A.* 701b33 (the object of pursuit is the origin of movement). – That the *δρεξις* is the efficient cause may be inferred from its close association to the 'inborn spirit', which is ever active (703a4ff.).

²⁵ *Ὀρεξις* is more than a mere *ὄργανον* of thought (*Pol.* 1328a28ff.): it is akin to thought and its relation to it may be compared to that of a child to its father (*E.N.* 1102b30ff.; 1103a1).

¹⁷ See A. Diès, *Platon. Le Sophiste*, Notice 286-288, and the literature quoted *i.h.l.*

¹⁸ Cf. F. Solmsen, *Aristotle's System of the Physical World*, New York 1960, 62-66.

¹⁹ *Op.cit.*, p. 17. See, however, A. Graeser, *Probleme der platonischen Seelenteilungslehre*, München 1969. The author thinks that the tripartition doctrine was abandoned in the later dialogues.

what lives in the Noûs²⁶. This presupposes that the first heaven is endowed with mind. In the *Corpus* however this is not always stated very clearly²⁷. That on this point Aristotle's theory is not unambiguous is also intimated by Theophrastus, *Met.* 5a28ff., who writes: "And if impulse (ἐφελσις), especially that towards what is best, involves soul, then unless one is speaking by way of similitude and metaphor, the things that move must be possessed of soul"²⁸. But if these bodies have a soul, they already carry a source of movement within themselves and there is no need of a First Mover.

When we compare the argument of A 7 with certain texts of the *Eudemian Ethics*, difficulties arise on two points: according to *E.E.* 1218a30 one cannot say that all things desire some one good, because each is seeking its own special good. Apparently Aristotle is arguing here against the Platonic doctrine of the Good²⁹ yet one wonders whether this text does not contradict what A 7 states about the First Mover who is loved by other things: according to *E.E.* 1280a30 the First Mover could at the most be the good of one class of beings, for instance, of the first heaven.

A second difficulty is created by 1218b4-8 where Aristotle says that in the realm of unchangeable things the οὐ ἐνεκα does not exist, because there is no good that is aimed at by the latter (πρακτὸν δὲ τὸ τοιοῦτον ἀγαθόν, τὸ οὐ ἐνεκα, οὐκ ἔστι δὲ τὸ ἐν τοῖς ἀκινήτοις)³⁰. Now this seems to contradict 1072b1: ὅτι δ' ἔστι τὸ οὐ ἐνεκα ἐν τοῖς ἀκινήτοις, ἡ διαίρεσις δηλοῖ. One may perhaps say that what the *Eudemian Ethics*

²⁶ In a fully developed theory of potentiality and actuality such an ever actual activity without an outside cause is impossible.

²⁷ In the *De caelo* II 1 soul is excluded from the celestial bodies (but not mind). In *G.C.* 337a4 the sublunar elements (which are certainly not ensouled) are said to imitate the cyclical movement of the celestial bodies. If they can do so without being ensouled, one would assume that the heaven can also 'strive' for the perfection of the First Mover without being ensouled. - However, texts like *De caelo* II 12 and Theophrast's *Met.* 5b18 make it likely that there is mind in the first heaven. (According to the latter text the centre of the universe, contrary to the celestial regions, would be devoid of mind).

²⁸ Translation by Ross-Fobes. For a similar statement see Proclus, *In Timaeum* 82 A. - Some scholars think that *Phys.* 199b26-29 says that mind and knowledge are not necessary in order that a final cause may exercise its causality, but this inference goes beyond the text.

²⁹ The interpretation of the passus is not so simple. Cf. Dirlmeier's commentary, p. 209.

³⁰ By 'unchangeable things' not only mathematical entities, but also subsistent principles are meant.

is excluding from the supreme reality is activity in view of a purpose to be attained, but not that other things may strive for it. See *E.E.* 1249b14 where a dual aspect in final causality is distinguished, and God is said not to need anything. Yet, a difficulty remains in as far as God is not considered to be the final cause of man. It is tempting to conclude that the doctrine of A 7 is Platonic in outlook and precedes those sections of the *Eudemian Ethics* which we have mentioned³¹.

The concept of a Mover who moves by being desired has also been influenced by the doctrine of Eudoxus according to which all beings strive after pleasure: Aristotle transposed this doctrine on the level of theology: the world desires to attain the happiness of God, and this desire appears to be part of the essential structure of things. Aristotle does not go into details in A 7; for instance, he does not explain the rise of this desire, nor does he make a distinction between natural desire and elicited desire³². There can be no doubt, however that the theory of the First Principle as desired by the celestial bodies presupposes the presence of noûs, so that desire may arise. Noûs in the cosmos also secures continuity between the First Principle which is Noûs itself and the rest of the universe. This doctrine lays the foundation for an anthropology in which noûs is central and man can enter into contact with God through intellectual contemplation. Furthermore, striving, and morality are conceived as consequent upon, and hence subordinated to knowledge. The supreme being is not a despotic power but governs by wisdom³³.

³¹ From *E.E.* 1218a24ff. we may conclude with Dirlmeier that Aristotle took a lively interest in discussions of Academic theories about the desire of numbers for the One (to be identified with the Good). See Dirlmeier's commentary, H. von Arnim, *Eudemische Ethik und Philosophie*, (SB, Wien 1928), 62 and H. Kraemer, *Geistmetaphysik*, p. 44.

³² See *Phys.* II 3 on nature as a principle of movement as distinguished from the efficient cause of movement.

³³ This is stated more explicitly in *E.E.* 1249b13: οὐ γὰρ ἐπιτακτικῶς ἄρχων ὁ θεός, ἀλλ' οὐ ἐνεκα ἡ φρόνησις ἐπιτάττει.

INTRODUCTION V

THE PLACE OF METAPHYSICS A IN THE CORPUS ARISTOTELICUM

It has been said that Book A has no relation with other parts of the *Corpus*¹. In the entire book only five clauses occur which could be considered references to other texts: 1071b3, if it is a reference, points to A 1; 1072a4 is likely to be a later addition and seems to refer to the preceding part of the chapter; 1072b2, ἡ διάρσεις δηλοῖ, is no reference at all; 1075b34, which probably refers to 1071b19-20, might be a gloss. 1073a32 in chapter eight is the only reference to another treatise of the *Corpus*². Even more remarkable than this absence of references in *Met. A* is the fact that the other works of Aristotle never mention our treatise.

From the point of view of its doctrine Book A shows some parallels with other works of Aristotle, and in the first place with the *De philosophia*. An evaluation of the doctrine of the *De philosophia* is a difficult and hazardous task, not only because of the extremely fragmentary nature of the text as it is reconstructed, but also because of our uncertainty as to whether all what Cicero writes is Aristotelean doctrine. Assuming that he faithfully renders Aristotle's text at least in its major points, there remains the problem of its interpretation. A question which in recent years has come to be discussed is that of whether the dialogue contains the doctrine of the First Mover. W. Jaeger chose to see almost the same theory in both treatises, but von Arnim and Ross were critical of this interpretation³. Von Arnim and A. J. Festugière think that the theology of the dialogue is character-

ised by immanentism⁴, but H. Cherniss and W. Theiler are of the opinion that certain fragments of the text speak of a transcendent First Mover and set forth a theology in which a supreme Mind is clearly distinguished from the divine, but material heaven⁵. While P. Moraux considers the *De philosophia* an early work, independent of Plato⁶, P. Wilpert finds a typically Platonic doctrine of principles in the dialogue⁷. According to M. Untersteiner the dialogue dates to the period in which Aristotle wrote his mature works⁸.

In view of these divergent opinions there seems to be little hope of reaching a definite conclusion with regard to the relationship of the *De Philosophia* and *Met. A*. Nevertheless a brief discussion of those fragments which seem to propose a doctrine similar to that of A may be useful.

Fr. 1-3 speak of the inscription at Delphi 'Know thyself' and call it the most divine of injunctions. The reason why in this connection Aristotle insists on this sentence apparently is that he was convinced that self-knowledge is the supreme activity of Noûs, i.e., of God; by self-knowledge man comes closest to God⁹. On this point *Met. A* and the dialogue agree.

Fr. 11 (= *De anima* 404b16-24) speaks of the 'Living Being itself'. One might think here of the doctrine of 1072b28-30, but there is a difficulty in as far as this Living Being is said to be compounded of the Idea of the One and the primary length, breadth and depth, and hence it cannot be itself a primary reality as subsistent life in A 7 is.

Fr. 12b speaks of an army and its order and evokes A 10 where the same comparison occurs¹⁰.

In fr. 13 (= Cicero, *De natura deorum* 2,37,95-96) efficient causality is ascribed to the gods. According to C. J. de Vogel this would be a

¹ La révélation d'Hermès Trismégiste, II: Le Dieu cosmique, 219ff.

² Aristotle's Criticism of Plato and the Academy, 593: "There is no reason then to deny that in the περί φιλοσοφίας Aristotle called both the world as a whole and the fifth essence 'divine', asserted that νοῦς is the supreme divinity and set up another God to govern the retrograde motion of the planets along the ecliptic".

³ Les listes anciennes des ouvrages d'Aristote, Louvain 1951, 30; 328.

⁴ 'Die aristotelische Schrift "Über die Philosophie"', in *Autour d'Aristote*, 96-116; *JHS*, 1957, 155-162. Cf. also H. D. Saffrey, *Le περί φιλοσοφίας d'Aristote et la théorie platonicienne des idées nombres*, Leiden 1955.

⁵ 'Il περί φιλοσοφίας di Aristotele', in *Rivista di filologia e d'istruzione classica*, 87 (1959), 1-23.

⁶ Cf. M. Untersteiner, *Aristotele. Della filosofia*, Roma 1963, 75.

⁷ *Id.*, *op. cit.*, 173-175.

¹ Cf. Bonitz, *op. cit.*, 9. H. J. Kraemer, *Geistmetaphysik*, 191, writes: "Wie ein ratselhafter, erratischer Block ragt das A der 'Metaphysik' in die Zeit". Others, however, like G. Reale, *Il concetto di filosofia prima, e l'unità della metafisica di Aristotele*, 1967, 258 assert that A forms a unit with M and N, since the three books deal with the same theme, viz. separate substance.

² The reference might be to the *De caelo* 286b1-9.

³ *Gotteslehre*, 4ff.; *Aristotle's Physics*, Introd., 96.

Platonic doctrine, entirely absent from *Met. A*¹¹, but Untersteiner prefers to understand *opera* as a manifestation of the divine, which is to be identified with nature¹².

Some scholars see in fr. 16 an intimation of the theory of the First Mover¹³. There is, indeed, a connection between the *argumentum ex gradibus* of fr. 16 and the statement in *A* 7,1072b30ff. to the effect that the first principle is most perfect. Moreover, as I hope to show in the commentary, the point of view from which the study of the First Mover is conducted is that of formal causality¹⁴. Yet, there are important differences: in the extant fragments of the *De philosophia* the doctrine of subsistent thinking, which has itself as its object, is, to say the least, not explicitly formulated, and in *A* 7 self-motion which in the *De philosophia* is acknowledged as divine, appears to be excluded.

Fr. 21 (= Cicero, *De nat. deor.* 2,16,44) divides movement into movement by nature, by compulsion and by choice. The stars are said to be ensouled and their movement is voluntary¹⁵. Taking up a suggestion by Ross Guthrie writes that the idea of voluntary motion does not necessarily exclude that the celestial bodies are moved by a First Mover. "The only external Mover, ruled out by this passus, is one which asserts a compulsion contrary to nature"¹⁶. – This interpretation, however, strikes the attentive reader as somewhat artificial: in the context the terms 'voluntary motion' appear to signify self-controlled self-motion¹⁷.

As Cherniss points out, the difficult and obscure fragment 26 must be approached critically. The interpretation of the passus remains largely conjectural. However, contrary to what some have felt, there is nothing improbable about the fact that four things (*noûs*, the world, a supreme Ruler and the aether) are called 'god', "if we assume that the Epicurean (who is reported speaking here) takes as *θεός* whatever

Aristotle called *θεῖον*"¹⁸. Contrary to Cherniss, who states the cosmology of the fragment in the terms of the *De gen. et corr.*, I would prefer to read the text against the background of the *Timaeus*, according to which the celestial bodies move by their own power and only a certain regulating influence is required to make all the movements preserve their due order. – The terms *replicatione quadam* have been understood in different ways: some take them to mean the revolution of the celestial bodies¹⁹. Such a meaning of *replicatio*, however, would be highly unusual; the term is more likely to signify a movement in a direction contrary to a prior movement. One could think here of the movement of the planets as contrary to that of the first heaven, or of the revolution of the first heaven as contrary to that of the planets²⁰. However, since the dialogue teaches that the celestial bodies move with a voluntary movement of their own, the most likely sense of *replicatio* is that of a movement superimposed upon a primary movement. Hence it seems best to interpret the expression, with Bignone and Skemp, in the terms of the myth of Plato's *Statesman*.

The fragment seems to make a distinction between a supreme mind and an *alius quidam* who imparts movement to the celestial bodies. The implication of this clause is that the supreme mind which possesses the plenitude of divinity, is not the same as the First Mover. Apparently there is a gap between the *De philosophia* and *Met. A*: the doctrine of the latter is more advanced²¹; it takes up certain elements of the dialogue, as, for instance, the distinction between two meanings of the term 'end' (fr. 28), and the idea of a continuous, never-ending movement (*ἐνδελέχεια*, fr. 27), which may have been instrumental in the genesis of the doctrine of the everlasting activity of the First Mover. Important is also that the dialogue teaches that supreme reality is mind²².

The relationship between *Met. A* and the *Eudemian Ethics* has been

¹¹ H. Cherniss, *op. cit.*, 592.

¹² J. Bernays, *Die Dialoge Aristoteles*, 99-100; De Vogel, *op. cit.*, 33, n. 1; E. Berti, *op. cit.*, 383.

¹³ See J. Moreau, *L'âme du monde*, 118. He is followed by Bidez and Festugière.

¹⁴ J. Pépin, *op. cit.*, 473, even tries to show that certain texts of the *De Philosophia* exclude the doctrine of the First Mover. He points to fr. 17 (*quae enim (vis) potest maior esse*) and 19a (*ἐκτός μὲν γὰρ οὐδὲν ἐστὶ τοῦ κόσμου*). W. Pötscher, *op. cit.*, 14, concludes that at the time Aristotle wrote the *De philosophia* he did not yet have the theory of the unmoved Mover.

¹⁵ H. J. Kraemer, *Geistmetaphysik*, 140: "Der Denkkarakter der transzendenten Wirklichkeit ist für die aristotelische Frühzeit hinreichend belegt".

¹¹ *Greek Philosophy* II, 31-32.

¹² *Op. cit.*, 180-1.

¹³ I. Düring, *Aristoteles*, 244; E. Berti, *La prima filosofia di Aristotele*, 355.

¹⁴ One may even say that the deduction of the existence of the Unmoved Mover in *A* 7 is based upon a Platonic ontology.

¹⁵ Cherniss, *op. cit.*, 581-902, suggests that this fragment brings a Stoic adaptation of Aristotle's doctrine.

■ See his Introduction to the Loeb Edition of the *De caelo*, XXVI.

¹⁷ The term *voluntarius* is strange. With Untersteiner, *op. cit.*, 234-235, we may assume that the Greek original had *ἐφ' ἑαυτῶν* (not *ἐφ' ἑαυτοῖς*). One should also keep in mind that the idea of 'nature' in this dialogue is different from that in the other books of the *Corpus*. See J. Pépin, in *REG* (1964), 452-453.

examined by H. von Arnim²³. The author points out that the same or similar doctrines are set forth in both treatises: the theory of happiness of *E.E.* 1217a28 appears to be quite close to the doctrine of the αὐτάρχεια of the First Mover; *E.E.* 1245b13 (God does not need friends) evokes 1072b14-26; the doctrine that man always wants to know and to understand (1244b21) expresses a thought which is fundamental to the argument of *Met. A*. According to Von Arnim the theme of εὐτυχία of *E.E.* VIII 2 also occurs in *A*²⁴; the οὐ ἐνεκα doctrine of *A* 7 is stated in *E.E.* VIII 1249a21-23.

Von Arnim assumes that *Met. A* contains the fundamental theology of Aristotle which dates to an early period of his scientific activity²⁵. The *Eudemian Ethics* would have been written somewhat later at a time when Aristotle still had in mind the theme discussed in *Met. A*²⁶. There is, in fact, a close relationship between the theory of self-knowledge and friendship of the *Eudemian Ethics* and of *Met. A* 7 and 9²⁷, and Von Arnim is certainly right in asserting that there are similar doctrines in both treatises. To the parallels listed by von Arnim one may add the theory of the 'first' in *E.E.* I 8 which seems to be related to *A* 7, 1072a35; the doctrine of activity and being awake of 1072b16-17, which is also mentioned in *E.E.* II 1. However, even if one would concede that certain sections of the *Eudemian Ethics* are later than some chapters of *Met. A*, neither the former nor the latter treatise are to such a degree homogeneous that such an inference about chronology would apply to the whole book. Against Von Arnim's conclusion pleads that the theology of the *Eudemian Ethics* is not very advanced. 1222b21-28 even seems to intimate that God is not unmoved. Now such a view, which is close to the doctrine of the *De philosophia*, is likely to have been formulated before *Met. A* was written.

W. Jäger drew attention to certain parallel passages of *Met. A* and *Met. N*, viz. 1072b30-1073a3 and 1092a9-a17; 1075b37-1076a4 and 1090b13-20. Because these texts deal with similar subjects,

²³ *Eudemische Ethik und Metaphysik. Sitzber. Ak. d. W. in Wien, phil. hist. Kl.* 207,5 (1928).

²⁴ The author sees a difference between the εὐτυχία doctrine of the two treatises. According to *Met. A* God would have to grant never changing happiness to man (*op.cit.*, 21). — This inference is not warranted: the restrictions and limits inherent to man's nature make such a never changing happiness impossible.

²⁵ *Op.cit.*, 24.

²⁶ *Op.cit.*, 25 ("noch frisch im Kopf").

²⁷ See Introduction III.

Jaeger infers that they must have been influenced the one by the other²⁸; *N* 4 and *N* 2 are a more detailed exposé, and hence they are the original text. It goes without saying that this inference is by no means certain: one might also say that the longer version was written later²⁹. It is certainly true that some arguments in *A* and *N* are similar, but on the basis of such a comparison it is hazardous to conclude that *N* precedes *A*³⁰.

A. Goedeckemeyer pointed out a number of parallels between *Met. A* and other books of the *Metaphysics*, as, for instance, 1069a18-b2 and *Z*1-2; 1069b3-34 and *H*1, 1042a24-4, 1044b20; 1069b35-1070a9 and *Z*7-9, 1034b7; 1070a9-13 and *Z*3, 1029a2-7 & *H*1, 1042a26-31; 1070a13-30 and *Z*8, 1033b20-1034a8; *H*3, 1043b19-23. In the commentary we shall have an opportunity to draw attention to these and other parallel texts³¹.

There also are certain connections between *Phys. I* and *A*³²: exactly as *Phys.* 189b16, *Met. A* 1069b8,32 asserts that physical reality consists of contraries which are supported by a substratum³³. As to the doctrine of the Unmoved Mover of *A* 7 and that of the First Mover of *Phys. VIII* it has been pointed out in the first section of the Introduction that there are some indications which make it probable that *Met. A* 7 is earlier than and rather unrelated to the exposé of *Phys. VIII*³⁴.

²⁸ *Aristotle*, 223f.

²⁹ See E. von Ivanka, in *Scholastik* 9 (1934), 527-531. — W. Theiler, on the other hand, subscribes to Jaeger's interpretation: "Die Entstehung der Metaphysik des Aristoteles mit einem Anhang über Theophrasts Metaphysik", *Museum Helveticum* 15 (1958), 85-105, p. 97.

³⁰ I. Düring, *Aristoteles*, 257.

³¹ A. Goedeckemeyer, 'Gedankengang und Anordnung der aristotelischen Metaphysik', in *Archiv für Geschichte der Philosophie* XXI (1908), 18-29, p. 21.

³² W. Theiler, *op.cit.*, 189-194.

³³ See also Düring, *op.cit.*, 189-194. He compares 1069b1 with 192a34.

³⁴ As will be pointed out in the commentary, certain parts of *A* 8 are a summary of more elaborate texts of *Phys. VIII* and thus posterior to it. — Contrary to this conclusion H. von Arnim thinks that the priority of *Phys. VIII* with regard to those sections of *Met. A* which deal with the First Mover, is a fact (*Die Entwicklung der Gotteslehre*, XIV, 'Met. A in seiner Beziehung zu Phys. Θ').

INTRODUCTION VI

THE DATE AND STRUCTURE OF *METAPHYSICA* A

The eagerness to date the various treatises of the *Corpus* or their parts to certain periods of Aristotle's life, which for some thirty years has characterised Aristotelian studies, has to a considerable extent subsided. Even if most of these attempts at fixing the chronology have been in vain, it is not without interest to give a brief survey of the question of the chronology of A.

W. Jaeger was the first to advance a rather detailed theory of the origin of the *Metaphysics*: during his stay in Assos Aristotle would have written several of its Books, viz. A, B and Λ, the first part of K, N etc. Jaeger excluded chapter eight of A, which would be very late. Jaeger wrote that A not only presents a theology, but also a complete system of metaphysics *in nuce*; he pointed out that the book is divided into two parts, the first of which (A 1-5) serves as a stepping-stone for the second¹.

In his review of Jaeger's important study A. Mansion admits certain of Jaeger's conclusions², but he points out that the contrast between chapter eight and the rest of the book is not so great as Jaeger thought it is³; while he wrote A Aristotle was further removed from the Platonic conceptions of the *De philosophia* than Jaeger is prepared to admit⁴; Mansion proposes the following chronological order for the composition of the treatises: *Physics* VIII; *Met.* A 1-7; 9-10; *Met.* A 8⁵.

¹ Aristotle, 219-220. In his *Studien zur Entstehungsgeschichte der Metaphysik des Aristoteles*, Berlin 1913, 122, Jaeger had already pointed out that contrary to Z, H, Θ, A does not know the distinction between πρώτη and δευτέρα φιλοσοφία.

² 'La genèse de l'oeuvre d'Aristote d'après les travaux récents', in *Revue néo-scholastique de philosophie* 29 (1927), 307-341; 423-466.

³ *Op.cit.*, 339-341.

⁴ *Ibid.*, 329.

⁵ *Ibid.*, 340.

The doctrine of the First Mover of *Phys.* VIII and *Met.* A would be almost identical.

H. von Arnim at first subscribed to Jaeger's chronology of A⁶, but in a later work he pointed out that the doctrine of the First Mover does not yet occur in the *De philosophia* and in the *De caelo*. It was worked out after Aristotle had formulated the principle that whatever moves is moved by something else⁷. Hence *Met.* A was written after these books, but prior to his return to Athens. Certain sections of A 6 and 7 presuppose *Phys.* VIII.

W. K. C. Guthrie draws attention to the ambiguity of the documents but agrees with von Arnim that the doctrine of the First Mover occurs only at a later stage of Aristotle's doctrinal development; A 8 is incompatible with the rest of the Book and therefore late⁸. Sir David Ross also thinks that the theory of a self-moving aether does not agree too well with the doctrine of the First Mover⁹. He points out that one aspect of the First Mover, viz. that of being the final cause of process in the world, is already mentioned in other works as *Phys.* II, the *De caelo*, etc.

F. Nuyens attempts to determine the data of the various treatises of which the *Corpus* consists by means of the more or less developed state of the doctrine of soul and body. From a passus in A 5 which affirms that body and soul are matter and form, Nuyens concludes that Book A is late. He sees additional evidence for this conclusion in A 10, where an external cause is mentioned which brings about the unity of body and soul¹⁰. While, as we have seen already, W. Theiler subscribes to Jaeger's theory of the early date of A¹¹, E. Oggioni is of a different opinion. He assumes that A was written after *Phys.* VII and VIII, *Met.* Z, H, Θ 1-9, M 1-9, but before the death of Speusippus¹².

⁶ 'Zu Werner Jaegers Grundlegung zur Entwicklungsgeschichte des Aristoteles', *Wiener Studien* 46 (1927-1928), 1-48.

⁷ *Die Entstehung der Gotteslehre des Aristoteles. Sitz.ber. d. Ak. d. W. in Wien, phil. hist. Kl.*, 212,5, 1931, pp. 53-68.

⁸ 'The development of Aristotle's Theology, I' in *Class. Quart.* 27 (1933), 162-171. Cf. also, *ibid.* II 28 (1934), 90-98.

⁹ See his Introduction to the edition of the *Physics* of Aristotle.

¹⁰ F. Nuyens, *Ontwikkelingsmomenten in de zielkunde van Aristoteles*, pp. 164-167.

¹¹ 'Die Entstehung der Metaphysik des Aristoteles', *Museum Helveticum*, 1958, 85-105, pp. 97-99: A is early, but later than N; it is also related to *Phys.* I.

¹² See 1072b31.

that is around 340¹³. According to this scholar *Met. A* would contain the final stage of Aristotle's doctrine of being *qua* being.

P. Gohlke points out that the theology of *Met. A* presupposes the doctrine of potentiality and actuality¹⁴. In their important commentary on the *Nicomachean Ethics* R. A. Gauthier and J. Y. Jolif write that *A* is late¹⁵. According to F. Dirlmeier *Met. A* was written after the *Magna Moralia*: 1182b4 provides an indication. Moreover *M.M.* II 5 is critical of the concept of a self-contemplating God. Dirlmeier thinks that Aristotle could never have voiced this criticism at the time he wrote *A*; hence *A* is of a much later date, i.e., it was written towards the end of Aristotle's life¹⁶.

According to I. Düring *Met. A* is an entirely independent text, not intended for publication; it belongs to the group of treatises on principles of the *De philosophia* and *Phys.* I and II, but it might even be earlier than *Phys. I*. Düring sees an indication for this in 1070a9ff., where Aristotle, against his custom, calls $\sigma\lambda\eta$ an $\omicron\upsilon\sigma\iota\alpha$. This might be typical of the oldest theory of matter. The passus 1070b10-15 contains certain basic thoughts which will be developed in the *De gen. et corr.* and *Meteor.* IV. The doctrine of potentiality and actuality is formulated in *A*, but that of the four causes is not yet fully developed¹⁷. The Book would date to approximately 357¹⁸.

H. J. Kraemer points out that on many points *Met. A* reflects a

¹³ Aristotele, *La Metafisica*, tradotta da Pietro Eusebiotti, Padova 1950, 332-338. *Id.*, *La 'Filosofia Prima' di Aristotele*, Milano 1939, pp. 60ff.

¹⁴ *Die Entstehung der aristotelischen Prinzipienlehre*, Tübingen 1954, 63f. M. Wundt, *Untersuchungen zur Metaphysik des Aristoteles*, Stuttgart 1953, 54-58, considers, like Gohlke, Book *A* the culminating point of the *Metaphysics*. In chapters 6-10 he sees a definite return to Platonism.

¹⁵ *L'Ethique à Nicomaque*, t. I, Louvain 1958, pp. 32-36. In II, 859 the authors write: "C'est le livre *A* de la Métaphysique qui est décidément un des derniers écrits d'Aristote et où, plus que jamais, il a pour parler de Dieu des accents d'une émotion continue qui ne sauraient tromper sur la permanence de ses sentiments religieux".

¹⁶ Aristoteles, *Die Grosse Ethik. Übersetzung und Kommentar*, 469. — One could easily reverse this argument. According to Ph. Merlan, *Studies in Epicurus and Aristotle*, p. 91, the *M.M.* is later than *Met. A*.

¹⁷ Aristoteles, 189-194. V. Rose, *De Aristotelis librorum ordine et auctoritate*, p. 160, thinks that the whole of *A* would fit better in the *Physics*; Rose wonders whether the book is not the product of a later disciple. J. Zürcher likewise suggests that, for the greater part, it might be the work of Theophrastus. Cf. his *Aristoteles' Werk und Geist*, Paderborn 1952, 204-206.

¹⁸ *Ibid.*, 50.

metaphysics which is still Platonic in spirit; it was probably written during Aristotle's stay in Assos¹⁹.

When we summarize the explanations and dating by these scholars there appear three lines of interpretation: (a) some scholars draw attention to a certain correspondence with Platonic theories and *Phys. I* and conclude that *A* is one of the earliest treatises of the *Corpus*. (b) others think that *A* is early, but later than, for instance, the *De caelo*, the *De philosophia*, *Met. N* (Jäger). (c) others stress the doctrinal contents of the Book, as the doctrine of the First Mover, of soul and body, of potentiality and actuality; in view of the advanced state of these theories the Book must be late.

In order to bring some clarity into this difficult issue we must first examine whether Book *A* is to be considered one unit, and evaluate the doctrinal contents of the various chapters.

The structure and division of the Book appear to depend on the statement in *A* 1 that there are three $\omicron\upsilon\sigma\iota\alpha$, a statement which is repeated in *A* 6. The treatise is apparently intended to be a study of the nature of these levels or classes of beingness. However, this plan is not faithfully executed²⁰. Sensible things are treated in cc 2, 3, 4, 5, but the discussion of the second class of being is hardly more than a brief mentioning of it²¹. Although the unmoved Substance is mentioned in chapter one, the contents of chapters two, three, four and five are hardly related to this doctrine. Ross saw such a relation in the fact that contrary to *Met. Z* and *H* (in which Aristotle deals with the logical analysis of sensible substance into form and matter), "*A* is concerned rather with the causal explanation of the existence of

¹⁹ *Geistmetaphysik*, 128-132.

²⁰ The opening statement on the three $\omicron\upsilon\sigma\iota\alpha$ in chapter six does not have exactly the same sense as that of chapter one. It could have been added by an editor in order to connect the study of the First Mover with that of sensible substance and so to secure the unity of the Book.

²¹ According to P. Aubenque, *Le problème de l'être*, pp. 396f., one cannot say that the first part of *A* studies sensible things and the second the First Principle: if this would be the division of the book, the intermediate substance should also have been discussed. Hence, Aubenque argues, sensible substance is studied from the point of view of metaphysics. I would agree with Aubenque that apparently the concept of philosophy which inspired the composition of the treatise is that of a general science of principles, which is Platonic perhaps more than Aristotelian. In view of the defects in composition and of the omission of the study of intermediate being Aristotle himself can hardly be made responsible for the arrangement of the chapters.

sensible things, and therefore brings in at an early stage and constantly insists on the necessity of a motive cause as well. It thus prepares the way for the proof of the necessity of a single motive cause of the universe"²³. In basic agreement with Ross G. Patzig sees in 1072b13-15 (on the dependence of the world on the first being) the key to the unity of the Book²³. It cannot be denied that there is a certain coherence: chapters two to five do, in fact, serve a purpose. This is probably what Ross discerned. Yet, this criterium is hardly sufficient to speak of one coherent Book. What Ross says applies as well to the contents of the *De generatione et corruptione* and to those of the *De caelo*, and yet we do not say that they form one treatise with A 7. If Aristotle had really wanted to write a coherent treatise on the First Mover, he would have done better and produced a much more consistent text. It would seem that Book A consists of a collection of short studies, but is not a carefully planned coherent treatise. It contains an amazing wealth of doctrine, which for its greater part consists of what one might call mature or definite Aristotelianism. However, as to its style and its composition, A does not so favourably compare with some other treatises, as for instance *Met. A*²⁴.

Met. A 1 is a preface or introduction to the treatise. It creates the impression that the different classes of οὐσίαι have the same principles. The division of being proposed in the chapter is inspired by Plato's reduction of things to first principles. The text of the last part is corrupt²⁵. The chapter seems to be very early. It is best to make chapter two begin at 1069b3. The text sets forth Aristotle's doctrine of change, of potentiality and actuality. Like *Phys. I* it asserts that change is best explained by the theory of three principles.

A 3 is not a very coherent chapter. It makes a number of observations which further explain the function of form and matter in the process of change and are a summary of what is treated at greater length in *Phys. I* and *Met. Z*. In a division of types of causality final causes are not mentioned. This does not prove, however, that the doctrine of final causality had not yet been worked out by Aristotle: he deals with

²³ *Aristotle's Metaphysics I*, XXVIII.

²³ 'Theologie und Ontologie in der "Metaphysik" des Aristoteles', *Kantstudien* 52 (1969), 185-205, p. 199.

²⁴ Thus already V. Cousin, *De la métaphysique d'Aristote*, Paris 1838, VII.

²⁵ Perhaps the editor wanted to do away with certain statements which contained a Platonic doctrine. See the commentary.

change in the physical world and therefore he may have omitted to speak of finality, for the final cause works through and in the efficient causes.

A 4 deals with the question of whether the principles of things are the same or different. The doctrine of the chapter is related to that of other parts of the *Corpus*.

A 5 explains in which sense the principles of things can be said to be the same. The chapter presents a fully developed theory of potentiality and actuality, but it can hardly be called a well-composed treatise, for it consists of four loosely connected parts: 1070b36 - 1071a2; a2-3; 3-17; a17-b2. The last lines of the chapter conclude the discussion of principles of sensible things.

Onwards from chapter six Aristotle turns to the discussion of unchangeable being: there must be perpetual time and movement and an everlasting body which is moving with circular motion. The chapter then examines the question of what is the origin of movement. The doctrine of potentiality and actuality is set forth: perpetual movement requires an agent which is actuality at the time he moves the recipient. However, the formulation of the problem is not so clear and elaborate as in *Phys. VIII* 5. Aristotle states that the ultimate cause of movement is actuality itself; previous philosophers did not succeed in defining the real cause of movement. The last section (1072a9-18) does not seem to form one unity with the rest of the chapter.

With chapter seven we reach the very core of the Book. The chapter is, to a certain extent, continuous with chapter six. The argument presupposes that there are things which are being moved, things which while being moved themselves, move others, and an unmoved Mover. The analysis is made from the point of view of formal causality. The chapter exhibits certain parallels with Plato's ontology, as, for instance, in 1072a30-35, yet Aristotle transforms the Platonic scheme of reality by substituting potentiality for the Dyad and everlasting activity for the One. In the last part of the chapter Aristotle deals with the nature and the activity of the unmoved Mover.

A 8 proposes the theory of a plurality of ever-active movers. We shall discuss the question of its date in the next section of this introduction.

A 9 consists of three parts which all deal with the question of the nature and the activity of the First Mover, yet do not form a strict unity. The last two sections of the chapter, for instance, do not further elaborate the conclusion reached in the first part, but take up the

discussion at a less advanced point. The style is that of a dialogue, ellipsis occurs. It is very hard to say anything definite about its time of composition. While agreement between the doctrine of the *De anima* and A 7 is only partial, there is substantial agreement between the *De anima* and A 9.

A 10 is concerned with the question of what is the good of the universe, and then turns to a discussion of the views of other philosophers with regard to the question of whether the first principles are good or not. The text seems to be related to *E.N.* I 6 and presupposes the more detailed studies of *Phys.* I and of the *De gen. et corr.*

This evidence suggests that *Met.* A may be divided into at least six treatises or essays: A 1; A 6 and 7; A 2, 3, 4, 5; A 9; A 10; A 8. While A 1 appears to be inspired by a Platonic ontology, 6 and 7 propose a doctrine which is Aristotelean although not yet so independent from Platonism as many other parts of the *Corpus*. A 2, 3, 4, 5 and 6, and probably also 9, contain many elements of 'mature' Aristotelean metaphysics and might date to the period in which certain books of the *Physics*, the *De gen. et corr.* and the *De anima* were written. A 10 stands on its own; it may date to approximately the same period. A 8, as we shall see contains many elements of Aristotle's physics and metaphysics, yet is best considered a short essay by one of his collaborators or students which was inserted into the book by a later editor.

If we adopt this interpretation of the structure and date of *Met.* A, the observations of most commentators which we quoted above are no longer so mutually contradictory as they appear to be at first sight.

INTRODUCTION VII

A 8 AND THE PROBLEM OF ARISTOTLE'S MONOTHEISM

There are few questions which have to such an extent tried the ingenuity of commentators and students of Aristotle as that of whether he assumed the ultimate principle of movement in the universe to be one or many. The reader of Book A is confronted with the problem in all its acuteness: chapters six and seven assert the existence of a supreme principle, which is an unchangeable immaterial being, enjoying life of eternal bliss. The discussion of its nature and activity is interrupted by chapter eight, which deals with the question of whether there is only one such a mover or more, and answers that there are as many movers as there are revolving celestial spheres. There are 55 (or 47) movers since astronomy shows that there are as many revolving bodies. In chapter nine Aristotle turns again to the analysis of the activity of the unmoved Mover. Book A ends with a plea in favour of the assumption of a unique supreme principle of order.

What is surprising about chapter eight is not that it asks the question of whether the supreme principle is one or many, for Aristotle does so elsewhere too¹, but that it completely disregards the difficulties which are inherent to the theory of a plurality of eternal movers. Theophrastus draws attention to the problem: "For if that which imparts movement is one, it is strange that it does not move all the bodies with the same motion; and if that which imparts motion is different for each moving body and the sources of movement are more than one, then their 'harmony as they move in the direction of the best desire' is by no means obvious. And the matter of the number of the spheres demands a fuller discussion of the reason for it; for the astronomers' account (*ὁ γὰρ τῶν ἀστρολόγων*) is not adequate. It is hard to see, too, how it can be that, though the heavenly bodies have a

¹ Cf. *Phys.* VIII 6. One may add those texts where Aristotle speaks of *χωριστά* and *ἀκίνητα* (*Met.* 1026a16; 1040b34ff.; 1042a31; 1051b26-32; 1086b16-19, etc.), and those where the gods are mentioned.

natural desire, they pursue not rest but motion. Why then is this assertion combined with the stress laid on imitation, alike both by those who emphasize the One and by those who emphasize numbers?"² This important text draws attention to several difficulties inherent to the theory of an unmoved Mover. In its first lines it deals with the efficient cause of the movement of the celestial bodies: on the assumption of one as well as on that of many movers serious difficulties result. Theophrastus then points out that the calculations of the number of spheres by astronomers are not adequate. He probably alludes to the fact that there were several theories concerning the question of the precise number of spheres. This line is often taken to refer to A 8. It is true that A 8 does describe the considerations which led Eudoxus and Callippus to postulate a certain number of spheres. Yet Theophrastus' criticism may as well concern discussions of this issue in the Lycaean and Academy; the text could also serve the purpose of pointing out certain difficulties inherent to the conception of an unmoved Mover, and be mainly intended as an exercise in critical thinking. – In the following clause Theophrastus turns to a view which explains the movement of the celestial bodies by means of desire: "Why do they pursue motion and not rest?" This is often believed to refer to the doctrine of A 7. There is, however, an important difference to be noted: A 7 describes the First Mover as being ἐνέργεια, so that desire of its perfection is desire of its activity³. This answers Theophrastus' difficulty. It is unlikely that Theophrastus himself did not know this. Hence it is better to assume that he had in mind Platonists who explain process and movement in the cosmos by means of desire of the perfection of the ideas. That this interpretation of the text is correct is confirmed by the following lines: "those who emphasize the One as well as those who emphasize numbers speak of imitation of the One". This refers to Academic theories rather than to the theology of *Met. A*.

When Theophrastus wrote these lines several theories of the origin of motion had been proposed, so that it would be rash to think that he is criticising Aristotle, who in *Phys. VIII* establishes the existence of an ever active Mover and could easily answer Theophrastus' criticism by saying that once the first heaven is set in movement, it imparts its

² *Met.* ch. 2, transl. by Ross and Fobes.

³ In *De caelo* 300b1 Aristotle mentions a First Rester.

actuality to other spheres. Hence the relation between this passus of Theophrastus and *Met. A* is remote⁴.

The Greek commentators noticed the discrepancy between the doctrine of chapters seven and eight. Alexander is reported to have written that if the first principle moves by desire, there is no reason why it cannot move all the spheres by itself⁵. Simplicius thinks that the discussion of A 8 belongs to the *Physics* rather than to the *Metaphysics*⁶.

The Arab philosophers also wrestled with the metaphysical problem of a plurality of movers: Avicenna conceives the intelligences as a series of successive emanations so that there is a causal relation between them and the Supreme Mind. Averroes, rejecting the theory of emanation, assumes that there is a distinction between the movers in as far as the one is better and of a higher rank than the other⁷.

In his commentary on A 7, 8 and 9 St. Thomas accurately reports what Aristotle is saying. That he himself does not quite agree with Aristotle may be concluded from the fact that he does not admit the *de facto* eternity of the heavens and their movement, and thus he cannot himself admit conclusions deduced from such a conception⁸.

Schwegler and Bonitz comment on the doctrine of chapter eight but do not speak of a contradiction between this chapter and the rest of the Book. In his *Metaphysics* I, CXXXIX ff. Ross writes that there is no insurmountable difficulty in reconciling both. He does draw attention to certain problems, as, for instance, that a number of unrelated intelligences would disrupt the unity of the world. He suggests, much like St. Thomas did concerning the angels, that the intelligences form a set of different species within one genus. He also suspects that they may be moved by desire of the First Mover, a desire which would involve some potentiality and subordination.

By the publication of Jaeger's book on the development of Aristotle's thought scholars became more aware than had been the case, of the

⁴ G. Reale, *Theophrasto e la sua aporetica metafisica*, Brescia 1964, 37-46, assumes that there is an intimate relation between this text of Theophrastus and Aristotle's doctrine.

⁵ Ap. Simplicium, In *De Caelo* 270,5-14.

⁶ In *De Caelo* 510,31. Ps. Alexander, 700,13, does not seem to be aware of any special difficulty.

⁷ Cf. H. A. Wolfson, 'The Plurality of 'Immovable Movers' in Aristotle and Averroes', *Harvard Studies in Classical Philology*, 1958, 233-253.

⁸ In *XII Metaphys.*, lect. 9.

difference in style and doctrine between A 7 and 9 on the one hand, and chapter eight on the other. Jaeger argues that A 8 is not an organic member of the Book: (a) its style is that of a fully written out treatise whereas that of the other chapters is bare of any polish; these are hardly more than a series of notes; (b) in chapter eight the movers do not move by being desired as in chapter seven. – Unfortunately Jaeger does not go into details and fails to compare the thought of both chapters in detail⁹.

In a review of Jaeger's 'discovery' of the fundamental disagreement between A 8 and the rest of the Book, Mansion expressed his doubts as to the correctness of this interpretation and suggested that the movers must perhaps be understood as being on a different level from that of the unmoved Mover: they are unmoved *per se*, but not *per accidens*¹⁰.

H. von Arnim finds himself in agreement with Jaeger on the fact that chapter eight differs from the rest of the Book, but he thinks that it was composed between K, N and A on the one hand, and A, B, Γ, E, Z, H, Θ, I, M on the other hand¹¹. However, four years later Von Arnim wrote that A 8 must belong to the last stage of Aristotle's theology because the plurality of movers is incompatible with his previous doctrine¹².

J. Paulus, who, as we have seen, explains the differences between *Phys.* VIII and A 7 in an original way, allows for a later redaction of certain parts of A, but he does not think that there is a real opposition between A 8 and the doctrine of the other chapters¹³.

W. K. C. Guthrie, on the other hand, feels embarrassed by A 8: in *Phys.* VIII where the possibility of a plurality of movers is hinted at, there is a distinct bias in favour of unity. "My inference with regard to *Phys.* Θ would be this: Aristotle had, as one would suppose, only worked out his theory of motion as far as the one unmoved Mover. He mentions tentatively the possibility that there may be more than one, because he realizes that its unity has not yet been fully proved; but at the moment he thinks it improbable that there should be more than one; and we may also conclude that the idea was not attractive to

him"¹⁴. Guthrie thinks that the theory of A 8 is late while the rest of the Book may well be early¹⁵.

M. Bousset summarised the dilemma as follows: (a) A 8 and the remainder of the Book are not by the same author; (b) the texts contain a contradictory doctrine, yet are by the same author (Jaeger, Von Arnim, etc.); (c) there is no contradiction. – Bousset himself does not think that Aristotle made a basic change in his view and believes that 1074a16 - b1 (a *passus* which seems to conflict with the rest of the chapter) was added by Aristotle to inform the reader that in spite of the fact that he admitted several movers, he still upholds the doctrine of a unique Unmoved Mover¹⁶.

According to A. Nolte A 8 dates to the same year of composition as the entire Book¹⁷. – The discussion of the scope and place of the doctrine of A 8 was given a new turn by Ph. Merlan: it is a mistake to inquire as to whether Aristotle's theology is monotheistic or polytheistic, since this distinction was still below the horizon in Aristotle's days; moreover, there simply is no contradiction between A 8 and the other chapters. Merlan sees an intimate relationship between the theory of a plurality of movers and Plato's doctrine of principles, in particular, of ideal numbers: the chapter is early rather than late. Aristotle's movers belong to or constitute spheres of being¹⁸. In a later publication Merlan comes back to the problem and reaffirms that A 8 is not in contradiction with Book A in general; in *Laws* 885e-899d Plato also first speaks of soul in the singular and later of 'souls'¹⁹.

Contrary to Merlan E. Oggioni thinks that A 8 was added later to Book A by Aristotle himself. Its contents are quite different from those of the rest of the Book²⁰.

¹⁴ 'The Development of Aristotle's Theology, II', in *Class. Quart.*, 1934, p. 91.

¹⁵ A 8 is "a piece of Aristotelian writing whose late date is fixed for us beyond all reasonable doubt", *op.cit.*, 97. Guthrie draws attention to the tentative way in which the results of the study are submitted to the reader, something which is very unusual for Aristotle. He also points out that subordination of these movers to the First Mover supposes that there is potentiality in them.

¹⁶ 'Sur la théologie d'Aristote: monothéisme ou polythéisme?', in *Revue thomiste*, 1938, 798-805.

¹⁷ *Het godsbegrip bij Aristoteles*, Nijmegen 1940, 147.

¹⁸ 'Aristotle's unmoved Movers', in *Traditio* IV (1946), 1-30, p. 24. Merlan's article was reviewed by Festugière in *Revue philosophique de France et de l'étranger* 74 (1949), 66-67, who admits that there is a certain polytheism in Aristotle's theology.

¹⁹ *Studies in Epicurus and Aristotle*, 93-97.

²⁰ In *Aristotele. La metafisica*, tradotta da Pietro Eusebiotti, Padova 1950, 369.

⁹ *Aristotle*, 342ff.

¹⁰ *Revue néoscholastique* 29 (1927), 339-341. He speaks of an 'ordre de subordination'.

¹¹ *Eudemische Ethik und Metaphysik*, p. 40.

¹² *Die Entstehung der Gotteslehre*, 77-79.

¹³ *Revue de philosophie*, 1933, 412ff.

J. Owens, however, sees no fundamental opposition between the theory of a First Mover and that of 55 separate movers: the latter are on the same level of being as the First Mover²¹.

G. Reale maintains, against Jaeger, that the style of *A 8* is as brief and laconic (or even more so) as that of the surrounding chapters²². He also argues that in *A 8* there is no trace of a general science of being, as Jaeger had asserted there was. For, 1073b3-8, by stating that astronomy is concerned with eternal but visible things, intimates that there is a branch of philosophy which deals with eternal, invisible things²³. Reale and those who with him believe that *A 8* does not interrupt the logical sequence of the subjects treated in the last chapters are right to a certain extent. For regardless of whether Aristotle himself or a later editor inserted it at its present place, there were good reasons to insert it there. After having discussed the existence and nature in general of the Unmoved Mover one may ask the question of its uniqueness or plurality²⁴. The metaphysics of *A 7* however appear to exclude such a plurality.

I. Düring agrees with Jaeger on the fact that the style of *A 8* differs from that of the surrounding chapters²⁵, and with Merlan that its contents do not conflict with the doctrine of the Book in general. However, contrary to Merlan Düring does not think that there is a relation between ideal numbers and the movers of the spheres. According to Düring the theory of movement of the *De motu animalium* 702a21 and of *Phys.* VIII 5,256a12 requires an ἀρχὴ ἀκίνητος for every spontaneous movement²⁶.

E. Weil accounts for the seemingly divergent statements on the question of the unicity and plurality of the unmoved movers by drawing attention to the hypothetical character of Aristotle's metaphysics: the question would have been irrelevant to Aristotle and the

answer to it could be different according to the starting point which he adopted²⁷. E. Weil is right in that Aristotle's arguments are sometimes hypothetical, but this is no reason for saying that Aristotle advanced his theory of an unmoved Mover as a hypothesis which he would give up or alter at any time. Such an assumption not only conflicts with the wording of the texts concerned, but is also contradicted by the seriousness with which true metaphysicians advance their arguments.

H. J. Kraemer thinks that the theory of a plurality of movers may easily be incorporated into the doctrine of the First Mover, viz. as a plurality within a transcendent entity²⁸. – In a later publication H. J. Kraemer comes back to this interpretation and argues that the god of *A 9* thinks the essences which are within him and that these essences are the 55 unmoved movers of chapter eight; he points out that Jackson had suggested this solution already many years ago, although his own interpretation was reached independently²⁹. K. Oehler attacks this interpretation which makes the movers immanent in the thought of the first principle, but H. J. Kraemer vigorously rejects Oehler's views and upholds his own explanation³⁰.

Unfortunately not all interpretations given above are supported by a patient and careful analysis of every line of *A 8* and of the texts concerned, but even after such an analysis certitude as to the solution of our problem is not easily reached. Yet the following observations may be helpful for a solution:

(a) the style of chapter eight, in particular the way in which the sentences are constructed, is slightly different from that of most parts of the *Metaphysics*. Moreover, a number of terms are used which are seldom in the rest of the *Corpus* or do not occur at all, as, for instance, in

1073a16: ἀπόφασις in the sense of the sentence of an arbiter

a22: μετὰ σπουδῆς ἀποδεικτικῆς

a31: the term πλανήτης is used to signify the planets. In the

²¹ 'The Reality of the Aristotelean Separate Movers', in *Review of Metaphysics*, III (1950), 319-337, p. 334.

²² *Teofrasto*, 112-113.

²³ *Op.cit.*, 116-119.

²⁴ Reale points out that Theophrastus also first speaks of the nature of the First Mover and next of the question of the plurality of movers. Hence he would have followed the order of *Met.* *A 7* and 8. I would say to this that the papers left by Aristotle were arranged so as to form a somewhat coherent treatise, according to a pattern set by Aristotle's teaching in the School and by that of Theophrastus, and which we also encounter in the *De caelo* I.

²⁵ *Aristoteles*, 191.

²⁶ Cf. *M.A.* 702a29.

²⁷ 'Quelques remarques sur le sens et l'intention de la métaphysique d'Aristote', *Studi Urbinati* 41 (1967), 831-852, p. 849.

²⁸ *Geistmetaphysik*, 172-173.

²⁹ H. Jackson, 'On some passages in Aristotle's *Metaphysics A*', in *The Journal of Philology*, (1904), p. 144. – H. J. Kraemer, 'Zur geschichtlichen Stellung der aristotelischen Metaphysik', in *Kantstudien* 58 (1967), pp. 313ff., p. 319.

³⁰ K. Oehler, in *Gnomon* 40 (1968), 641-653. H. J. Kraemer, 'Grundfragen der Aristotelischen Theologie', in *Theologie und Glaube* 44 (1969), 363-382; 481-505.

De caelo it is still accompanied by ἀσθήρ except in one text which probably is a later interpolation

a32: ἀστάρων does not occur in the *Corpus* nor in texts of the classical period. It is found in Epicurus' *Epist. ad Menoecum* 133,8.

b12: ἐνβολαὶ χάριν is seldom in the *Corpus*.

Jaeger drew attention to the fact that in the passus on Eudoxus and Callippus the imperfect tense is used. This does, indeed, create a slight probability (but no more than that) that the passus in question was composed after the death not only of Eudoxus, but also of Callippus, i.e., perhaps around 310.

(b) chapter eight in many of its statements gives the same doctrine as is found in other parts of the *Corpus*. The statement on movement *per se* and movement *per accidens* in 1073a23 agrees with *Phys.* 254b7-12; 259b28-31.

In a27 there is question of the necessity of an eternal mover. The same view is also stated in *Phys.* 258b10. – In fact, the passus a23-28 appears to be a summary of the doctrine of *Phys.* VIII.

In a32ff. Aristotle affirms that the mover is prior to the moved. Cf. *Met.* 1010b37 and *Met.* Θ 8.

The passus b3-7 deals with a partition of science, and agrees with what is said elsewhere in the *Corpus*. See, for instance, *Phys.* 194a7-8 and *Met.* 989b32-33 on the question of the subordination of astronomy to mathematics. Like our text *P.A.* 639b7-10 indicates that professional mathematicians deal with astronomical questions. – *De caelo* 291a31 and *G.A.* 760b27-33 likewise stress the necessity of observation.

The well-known text of *E.N.* 1096a16 on the love of truth as compared to love of a friend agrees with what is stated in 1073b16.

As in *De caelo* 306a3-17 and *Meteor.* 341b6 Aristotle is in 1073b36 concerned with 'saving the phenomena'.

The doctrine of finality of 1074a20 agrees with that of *Met.* 983a32; *E.N.* 1097a18-19; *E.E.* 1218b6; *De caelo* I 9 and II 1.

That infinite regress is not possible (1074a29) is also affirmed by *Phys.* VII 1 and countless other texts. See Bonitz, *Index* 74b41-54 and 384a42-56.

The expression κατὰ τὸν οὐρανόν of 1074a30 also occurs in *Met.* 990a11.

There also is agreement between the doctrine of this chapter and Aristotle's metaphysics in general in that the view that movement is

the expression of the being of things is an assumption which is at the basis of the entire chapter.

(c) However, in spite of these numerous points on which there is agreement in doctrine and formulation between chapter eight and other parts of the *Corpus*, there are serious difficulties which make it doubtful whether the chapter, as it is now, was written by Aristotle himself.

The doctrine of the Unmoved Mover as contained in chapter seven insists above all on the fact that this Mover is the supreme Good of the universe, which desires and imitates him. The argument by means of which he is shown to exist is based upon an ontology which appears to be Platonic in character. However, the perspective of chapter eight is different: movers are required for each of the movements of the spheres (1073a28); obviously movers in the order of efficient causality are meant. It is perhaps true that such movers can coexist with a supreme Good, but in that case one cannot place this First Mover and the other movers on one level as 1073a23 does.

A further objection against an interpretation which sees in chapter eight the natural continuation of chapter seven, is contained in Aristotle's doctrine stated in *Phys.* 192a16-19: each natural thing desires God according to its own nature. From the point of view of final causality and from that of the principle of economy there apparently is no need of a plurality of movers³¹. – An additional difficulty lies in the fact that a plurality of movers makes the universe a system of spheres which are practically independent the one from the other.

These arguments undermine those interpretations which have the First Mover accompanied by other movers (either at the same level or at lower levels). It is also hard to believe in a development of Aristotle's thought as a result of which the doctrine of an unmoved, supreme final cause would have been replaced by a theory, the author of which passes from final to efficient causality, from metaphysics to mechanics, and does not show any signs of being aware of the change of perspective he is introducing and of the problems he is running into. But what about Kraemer's explanation, in which the 55 movers are assumed to form a unity? It seems to escape this criticism and to be supported by (a) numerous texts in which there is question of first beings or eternal separate realities; (b) the necessity to assign some contents to the thinking of the First Mover; (c) the fact that

³¹ As we have seen Alexander observed that if the First Mover moves by desire, he should also be able to set in movement the other spheres (ap. Simplicius, *In De caelo*, 270,5-14).

in later years, especially in Neoplatonic thought, this type of account is proposed.

Is this (partial) reduction of the 55 movers to the First Mover justified by the text of A 7, 8 and 9? (a) It cannot be denied that chapter eight gives the impression that the movers are distinct from each other and belong each to his own system of spheres. There is no indication that they form a plurality within a transcendent unity. Rather, their numerical difference is stressed, for they are said to be οὐσίαι (1073a37)³². (b) This reduction would offer no solution to the problem of what is the object of the "thinking of thinking". If the first Noûs would be said to know the 55 movers, there would no longer be perfect self-knowledge but a shifting of the attention of the supreme Noûs to the other movers, who are part of the same realm of being.

It is also difficult to identify the ἐκίνητα of which Aristotle sometimes speaks with these 55 movers. It is more likely that by this (and similar) terms Aristotle means formal principles in the order of extrinsic formal causality; he does not make clear to what extent these entities are subsistent.

An examination of the text of chapter eight brings out some other difficulties: 1073a31-32: the remark is quite useless and conflicts with the theory of a plurality of different spheres, which is stated in the following part of the chapter.

a34: the statement that that which is prior to οὐσία must also be οὐσία is strange when looked upon from the viewpoint of Aristotelean ontology. For οὐσία means the subsistent thing and οὐσία qua οὐσία has nothing prior to it. – The sentence does, however, have a good sense in a Platonizing theory of being.

1073b32. τοῦτ' ἔστι... τὴν τάξιν must be a gloss by a reader, who had not understood the meaning of the passus.

In the passus which deals with the theory of Callippus we read that Callippus assumed that there are *five* spheres for the sun and moon respectively and that hence he assigned to both as many spheres as to the planets. This seems to conflict with a view expressed in the *De caelo* II 12, where the sun and the moon are said to have fewer movements than the other planets.

This confronts us with a second difficulty inherent to the theory stated in these lines, viz. the text does not discuss at all whether the spheres subsequent to the first heaven are parts of a system in this way that

³² In this text οὐσία means 'individual' substance and not 'realm of being'.

once the first is set in motion the following spheres derive their motion from it. – In certain texts, as for instance in *De caelo* II 10, Aristotle assumes that the first heaven is a decisive factor in causing the movements of the planets: it effectively retards the movements of the planets and the more so the closer they are to itself³³. In this view the planets are assumed to have a movement of their own which is modified, retarded and opposed by the influence of the movement of the first heaven. This theory apparently is an attempt to account for the fact that the observed relative speeds of the planets increase descending towards the centre of the universe³⁴. It seems to derive from Platonic conceptions³⁵ and also to have been stated in the *De philosophia*³⁶.

In his explanation of Eudoxus' theory of the spheres Heath draws attention to yet another difficulty³⁷: the text of A 8 creates the impression that the zodiac sphere has the same role in moving the sun and moon which it has in the case of the other planets, viz. that of causing their movement in longitude. However, in the case of the moon this assumption leads to results which conflict with the observed facts: it is the third sphere which produces the monthly revolution from west to east, and not the second. This was undoubtedly the view of Eudoxus. – How to explain that A 8 missed this point? Aristotle himself was not a professional astronomer, yet we may assume that he was well informed about astronomy³⁸: Simplicius writes that together with Callippus Aristotle corrected the theories of Eudoxus³⁹. If this statement is more than a mere inference from A 8, it shows an Aristotle very well acquainted with the more intricate aspects of Eudoxus' calculations. For this reason it becomes doubtful whether Aristotle wrote this summary himself.

Another difficulty is that, in order to make the doctrine of A 8 agree with the theory of the *Meteorology* on shooting stars and comets,

³³ Cf. also 284a6 with my commentary in *Aristotle's Cosmology*, 177.

³⁴ In these chapters of the *De caelo* two factors are said to determine the observed movement of the planets, viz. a natural movement and another movement which is superimposed upon it from the outside. – Saturn is slowest, the moon fastest.

³⁵ This theory is presented in detail in the Myth of Er, *Rep.* X, esp. 617a-b. For Plato even the earth is moved with two contrary movements, the result of which is that it is at rest. See F. Cornford, *Plato's Cosmology*, 120-136.

³⁶ Fr. 26 Ross (Cicero, *De nat. deorum* 1; 13; 33). With J. Skemp, *Plato's Statesman*, 98-101, I take the terms *replicatione quadam* to signify such a contrary movement. For other explanations see M. Untersteiner, *Aristotele, Della filosofia*, 258-259.

³⁷ *Op.cit.*, 197.

³⁸ Cf. *De caelo* 292a3-6.

³⁹ In *De caelo* 493,5-8.

some more reacting spheres below the moon would be needed.

1074a31-38. This section purports to show that there is only one heaven. The argument is that the first formal principle of the universe is only one and that there is one heaven, but the account is not very clear. In a37 we read that the thing which is continuously moving (i.e., in movement) is also specifically and numerically one. This assertion seems to suppose that the First Mover is an efficient cause, whose activity and force are coextensive with its being; its force is fully engaged in moving the world. However, this does not seem to agree very well with the doctrine of A 7 according to which the First Mover moves by being desired, and even less with the theory of a plurality of movers of the preceding section of chapter eight⁴⁰. – Hence the passus is certainly out of place as is agreed upon by Von Arnim⁴¹, Jaeger⁴², Guthrie⁴³, and Ross⁴⁴. – This conclusion is confirmed by the fact that, if the passus is dropped, the οὐτοι of 1074b3 can be quite naturally connected with 1074a14-31⁴⁵.

If we keep in mind the fact that, like other Books of the *Corpus*, *Met.* XII is not a strict unity, but consists of several papers which were put together to form one text, it is no longer astonishing that chapter eight does not perfectly fit in with the rest of the Book.

The evidence above shows that a great deal of authentic Aristotelean doctrine was incorporated into the chapter, yet its basic orientation as well as the use of certain terms suggest the conclusion that the chapter in its present form was not written by Aristotle himself, but by some disciple(s) who freely used material from the other writings⁴⁶.

⁴⁰ W. K. C. Guthrie writes in his 'The Development of Aristotle's Theology, II', *Class. Quart.* 28 (1934), p. 95: "The trouble is... that this argument rules out not only the possibility of another universe, but also the existence of the other unmoved movers, which Aristotle has just been postulating".

⁴¹ *Gotteslehre*, 72. ⁴² *Aristotle*, 351.

⁴³ *Op.cit.*, "it is simply incredible that Aristotle intended this passus for insertion here".

⁴⁴ *Metaph.* II 384: "...seems to be a fragment belonging to the earlier and more monistic period of Aristotle's thought.

⁴⁵ Other scholars, however, think that the passus does not contradict the doctrine of the chapter. See the commentary *i.h.i.*

⁴⁶ G. Cardone, "E autentica la teoria aristotelica del primo motore immobile?", in *Rivista di storia della filosofia* 23 (1968), 123-148, pp. 133-134 asserts on the basis of a number of arguments, some of which are not quite convincing, that *Metaph.* A 8 is best explained as a summary of several doctrines, not all of which had been fully digested by its author. It might even date to some time after Sosigenes.

CHAPTER ONE

Whether we assume that the universe is a whole or that it is a series, οὐσία is its first part. – None of the things which are not οὐσία can exist apart. The ancient philosophers acknowledged the importance of οὐσία.

1069a18. περὶ τῆς οὐσίας ἡ θεωρία. The term θεωρία which first occurs in Aeschylus, *Prometheus*, 802, is a denominative of θεωρός which is likely to have been derived from the verb-stems θέα and γορ and signifies 'viewing', 'beholding', 'being a spectator at the games', 'the mission of θεωροί', 'sight' but also 'consideration' and 'view'. In this context the term has the meaning of inquiry connoting contemplation¹.

περὶ τῆς οὐσίας. Ross translates 'substance' but this rendering does not reveal the meaning of the term. When Aristotle began to use it, it had already acquired other meanings besides the original sense of 'being for me' (property), viz. that of 'being which is accessible to knowledge', and, at a further stage of reflection, that of the formal element in things, 'that which is'; for example, the beautiful itself is the οὐσία of beautiful things. It then got the meaning of the whatness of things, so that it signifies the very essence of the forms². Related to this sense is that of level or class of being(s). This use presupposes the view of a hierarchically organised universe. It occurs in Plato's dialogues, as, e.g., in *Rep.* 479c, and also in *Met.* A. In *Rep.* 479c the term denotes the level or class of being in a hierarchically conceived universe.

In another line of development of the sense of the term the aspect

¹ Cf. J. Stenzel, *Metaphysik des Altertums*, München-Berlin, 1931, pp. 174-176; 182-183. Gauthier and Jolif, *L'Ethique à Nicomaque* II, 848-850.

² One may compare texts like *Phaedo* 101c: μετασχόν τῆς ἰδίας οὐσίας ἐκάστω οὐ ἂν μετάσχη.

of *being* came to be emphasised³. In Plato's *Sophistes* the term appears to signify both the essential and the existential aspects of things. In the *Philebus* and *Timaeus* things are said to exist through participation in οὐσία⁴.

In *Met.* 1017b10-26 Aristotle lists the following meanings of the term: (a) the simple bodies, like earth, fire and things composed of them, as for instance, animals (these things are subjects of which all other things are predicated; this is the primary οὐσία of which the *De Categoriis* speaks); (b) that which is present in these things as the cause of their being as, for instance, soul in animals; (c) the parts (μέρη) present in these things. Aristotle means the planes, lines and points which are the boundaries of an individual substance; (d) the essence of things as it is expressed in their definition. – Aristotle then takes (b), (c), and (d) together and says that these meanings all indicate the formal aspect of things, over and against which there is the sense of concrete individual, viz. τὸ ὑποκείμενον ἔσχατον⁵. However, even when Aristotle uses the term to denote the essence of things, it connotes that this essence exists as a 'this'⁶.

In the first lines the singular οὐσία and the plural οὐσίαι alternate. It would seem that the plural form of the term signifies subsistent things whereas the singular stresses the beingness of things⁷, that is, that which things are and by which they are. For this reason an inquiry into οὐσία is tantamount to a study of the principles and causes of being.

Ph. Merlan suggests that οὐσίαι here does not mean individual sub-

³ *Theaetetus* 185c ff.

⁴ For these meanings one may consult the detailed study of H. H. Berger, *OUSIA in de dialogen van Plato*, Leiden 1961.

Unfortunately a recent and exhaustive examination of the meanings of οὐσία in the *Corpus* is lacking. One doctoral dissertation is however available: Bernhard Weber, *De οὐσίας apud Aristotelem notione eiusque cognoscendi ratione*, Bonn 1887.

⁵ See Ross, *Metaphysics* I, p. 310, and also Johannes G. Deniger, "Wahres Sein" in *der Philosophie des Aristoteles*, Meisenheim-Glan 1961, 73-77. – Especially the last lines of the chapter are difficult. See Alexander's commentary, 375, 30 ff.

⁶ Cf. 1042a 29. τὸδε τι usually denotes the concrete whole consisting of matter and form. Here it probably means the formal element existing in the individual, through which the individual exists.

⁷ This term is advocated by J. Owens in his *The Doctrine of Being in the Aristotelian Metaphysics*, Toronto s.a., p. 139, as a better rendering of the more abstract notion of οὐσία. – As for the change from the singular οὐσία to οὐσίαι see also 1003b18.

stances, but several classes of beings⁸. However, although Aristotle believed that the universe is hierarchically ordered, there is no evidence that the term οὐσία here has the sense of level of being.

Aristotle says that the inquiry is about being, its causes and principles. Almost identical statements occur in other books of the *Metaphysics*, as for instance in 1042a34-36 and 1003b17-19. One may also compare the opening words with the famous lines of *Met.* Z 1: "And indeed the question which was raised of old and is raised now and always and is always the subject of doubt, viz. what being is, is just the question, what is οὐσία?" (1028b2-4, Oxf. Transl.)⁹.

The terms αἴτιον and ἀρχή are often used together, but their order alternates (*Met.* 982b9 and 983a28). In some instances as well as here they are practically synonymous. As such ἀρχή denotes principles of the essence rather than efficient or moving causes¹⁰, and is often used when Aristotle is describing the Platonic doctrine of participation. When Aristotle became convinced that the specific essence of things does not depend on outside formal principles, ἀρχή was no longer a very good term to designate the constitutive elements of being¹¹. Hence when stating his own doctrine of causality, he prefers the term αἴτιον as we may conclude from *Phys.* II, 3; *Met.* A 1; A 3; E 2.

According to its opening lines Book A is a study of being; yet its object is not said to be 'being qua being' nor is the difference of this type of study from physics made plain. Elsewhere in the *Corpus* Aristotle distinguishes between two types of substances, viz. things which neither came into being nor perish, and things which are brought into being and pass away. The former are of the highest worth and divine, but are not easily accessible to human knowledge¹². Contrary to this division the first chapter of Book XII posits one comprehensive science to deal with substance, which exists on three different levels. It is possible that here Aristotle still feels that the study of the principles of being and physics are the same or, at least, are intimately

⁸ *From Platonism to Neoplatonism*, 134.

⁹ Cf. I. Düring, *Aristoteles*, p. 190.

¹⁰ Cf. *Met.* B 1. 995b7: τὰς τῆς οὐσίας ἀρχάς. – In Plato's dialogues ἀρχή is used as a technical term in the sense of a principle of knowledge and a principle of being (*Lysis* 219c; *Tim.* 48b; *Phaedr.* 245c; *Epin.* 245c). Cf. Adolf Lumpe, "Der Terminus 'Prinzip' (ἀρχή) von den Vorsokratikern bis auf Aristoteles", in *Archiv für Begriffsgeschichte*, 105ff.

¹¹ Cf. L. Robin, *La théorie platonicienne des idées et des nombres*, p. 310.

¹² Cf. *De part. anim.* 644b24ff.

related¹³. Since Book XII admittedly contains Aristotle's theology there is the question of whether Aristotle in his metaphysics pursues two different aims, viz. a study of being and theology. With regard to this problem various interpretations have been proposed: some scholars think that Aristotle subordinated the study of being *qua* being to that of the first principle, but Jaeger and those who follow him consider both conceptions as mutually exclusive and resort to the hypothesis of doctrinal evolution: at first theology would have been the supreme science to Aristotle, but later general metaphysics would have taken its place. In recent years it has been suggested that the being *qua* being of which Aristotle speaks are the divine substances¹⁴. It is impossible to give at this place a complete survey of the problem¹⁵; we can only make a few pertinent observations. Recently scholars have turned away from a constant recourse to the theory of evolution of Aristotle's thought; it is fortunate that they now also pay attention to the analogous use of the term being. This notwithstanding the historical perspective remains essential when we deal with the problem of the object of first philosophy. There is every reason to assume that Aristotle at first tried to establish a general science of being along the lines of Academic thought. This first philosophy dealt with the essence of things, their concatenation and dependence on ultimate principles¹⁶. It is possible, or perhaps even likely, that in this general science of being, that part of it which was devoted to the study of these first principles was somewhat singled off and was on the way of becoming a theology. After Aristotle had developed his epistemology

¹³ Cf. my *Aristotle's Cosmology*, 43-45, and Jaeger's *Entstehungsgeschichte der Metaphysik des Aristoteles*, Berlin 1913, 122.

¹⁴ See, for instance, J. Owens, *The Doctrine of Being in the Aristotelian Metaphysics*³ (1963), p. 463; Ph. Merlan, 'Metaphysik, Name und Gegenstand', in *JHSI* 77 (1957), 87-92. W. Bröcker, *Aristoteles*⁴, Frankfurt a. M. 1964, 229-238, argues that the conception of the opposition between a *metaphysica generalis* and that of ontology as theology, which Jaeger 'discovered' and which has been under discussion ever since, does not exist. Bröcker interprets the science of being *qua* being as a discipline which deals with the totality of being. Theology falls within its range.

¹⁵ For such a survey of the discussion (up to 1959) see V. Décarie, *L'objet de la métaphysique selon Aristote*, Montréal-Paris 1961.

¹⁶ For this reason it is better to consider *Met.* Γ 1 and 2 as earlier than *Met.* E 1, which proposes a tripartition of being, - at least when one adopts the perspective of the evolution of Aristotle's doctrine. See my 'Aristote et l'objet de la métaphysique', in *Revue philosophique de Louvain* 60 (1962), 165-183.

and his theory of the specific object of sciences, he could not but divide the sciences into specifically different disciplines. *Met.* E 1 exhibits such a division. The question of where to locate the science of metaphysics as contained in *Met.* A is not so easy to answer. The view which underlies the composition of Book XII probably is that the study of οὐσία on its three different levels makes up one science.

However, if we turn to the analysis of the individual chapters, the answer is no longer so clear. In chapter one a Platonic ontology shows through the lines of a text which was certainly overworked. Chapters two to five contain much which according to the division of *Met.* E 1 would belong to natural philosophy; chapters six and seven, in certain of their sections, summarize texts of *Physics* VIII, but basically an Academic tripartition of motion and scheme of contraries provide the starting point for the deduction of the existence and the nature of the Unmoved Mover. Chapter nine gives a theology which is independent from physical considerations and chapter ten argues against a dualistic theory of supreme principles.

τὸ πᾶν, the universe, the sum total of things. The term does not occur in the extant fragments of the Presocratic philosophers, but later commentators repeatedly use it when describing their theories¹⁷. The Eleatic philosophers used the indefinite pronoun πᾶν in the sense of the totality of things, which is not a result of becoming but unchangeable being, while κόσμος signifies a perishable aspect of the visible world¹⁸. In his early dialogues Plato uses τὸ ὅλον and οὐρανός to designate the universe, in later dialogues κόσμος and τὸ πᾶν also occur¹⁹. In the *Theaetetus* 204a ff. he argues that there is a distinction between πᾶν and ὅλον. The latter term does not only indicate the sum of the parts, but also an entity which exists by itself, although not an entity which would be a new reality different from the parts of which it is composed. In *Parm.* 157c he defines a whole as that which is one out of many. Aristotle took over this Platonic definition and writes in *Met.* 1041b12 ff. that a whole like flesh is not only fire and earth (or the hot and the cold) but also something more. When defining the whole in *Phys.* 207a9-12 he draws attention to another aspect of it: a whole is that of which no part is lacking or outside. The use of the term

¹⁷ Thales A 23; Xenophanes A 31; 32; Democritus A 67, etc.

¹⁸ J. Kerschesteiner, *Kosmos*, 117. Cf. Diog. Apol. A 5; Parmenides B 8,5; 8,24. For the Atomists τὸ πᾶν also comprizes the vacuum (Democr. A 67).

¹⁹ Texts where τὸ πᾶν is used are *Parm.* 128b; *Theaet.* 156a; *Polit.* 270b; *Tim.* 27a.

δλον to designate the universe probably goes back to the Eleatics²⁰. In Plato's dialogues it often has this sense, as for instance in *Lysis* 214b: οἱ περὶ φύσεως τε καὶ τοῦ δλου διαλεγόμενοι and *Rep.* 486a: τοῦ δλου καὶ παντός ἀεὶ ἐπορέξεσθαι θείου τε καὶ ἀνθρωπίνου. *Phaedrus* 270c speaks of τῆς τοῦ δλου φύσεως²¹. It would seem that in Plato's days the term, when applied to the world, evoked the Eleatic doctrine, for in *Theaet.* 181a, Plato speaks of 'partisans of the whole', thereby denoting the Eleatics²². Empedocles, B 2, uses the term as if it were a label denoting a particular theory, when he speaks of people who boast to have found the whole. – When giving an account of his own doctrine Plato also uses τὸ δλον to denote the universe. He assigned a high degree of unity to the universe, as if it were an organic whole. Cf. *Soph.* 249, *Tim.* 30b-c and 37d. Aristotle echoes such a view in *De philosophia* fr. 22 (Ross, p. 91) and in *De caelo* II 2, 9, 12.

The term δλον as used in this chapter signifies the totality of things outside of which there is nothing, and also indicates that these things have a high degree of unity. The addition of τι signifies that Aristotle is speaking here in general and does not want to go into details as to how the universe is one²³. Aristotle asks the question about the origin and unity of the universe because in this chapter, as so often in the *Corpus*, he takes the great cosmologies of his predecessors as a starting-

²⁰ A text of Xenophanes may also have contributed to the rise of this meaning of the term: in B 24 he writes that all of God sees, all of him thinks, all of him hears. By this he probably wanted to say that the one spherical universe contains all that is and is activity of knowledge (permeated by light). On the interpretation of the fragment see Guthrie, *HGrPh* I, 374 ff.

²¹ Cf. in *Tim.* 41e: τὴν τοῦ παντός φύσιν ἐδειξεν.

²² With J. Burnet, *EGrPh.* 127, n. 1, I think that the translation 'those who made the whole stationary' is not correct (although the Eleatics did in fact hold this view); Cornford, on the other hand, translates "as partisans of the immovable whole".

²³ This explains that commentators have different views when indicating the degree of unity of the universe. Ps. Alexander, 669,12, intimates (by means of his comparison with Socrates) that a substantial unity may be meant, but Bonitz, 469, suggests that Aristotle wants to say that if one considers the universe as one body, substance would be its formal part. – It would nevertheless seem that the expression has to be understood by referring it to Presocratic thought. That Aristotle has Parmenides in mind may be inferred from 1069a29. – As to δλον and πᾶν cf. the terminology of Theophrastus, *Mel.* 7a10 ff.: τὴν ἅπασαν οὐσίαν, ἢ φύσιν καὶ ἢ δλον δ' οὐσία τοῦ παντός, ἢ τοῦ σύμπαντος οὐσία, τῆς δλης οὐσίας, τὴν δλην οὐσίαν. Theophrastus apparently envisages the world as a sort of substance, the substance of everything.

point and divides these into two groups: in some cosmologies the world is a finished, complete whole, in other systems the world is the sum of juxtaposed entities (atomism) or a product of continuous process (Heraclitean thought and Pythagorean theories, according to which being is continuously drawn into the cosmos from the surrounding infinite)²⁴.

Whichever initial position one takes, the study of οὐσία is of primary importance.

ἡ οὐσία πρῶτον μέρος. The term δλον here signifies the universe as it is conceived in the theories of Parmenides, Empedocles and certain Platonists. Even Parmenides, although positing the absolute unity of all being, was forced to speak of certain parts of the world.

καὶ εἰ τῷ ἐφεξῆς, scil. εἴη τὸ πᾶν, if the all would be in the manner of serial succession (Ross translates τῷ as an instrumentalis, 'by virtue of serial succession', but if this translation were correct, the terms would no longer apply to the system of the atomists).

In Plato's dialogues τὸ ἐφεξῆς signifies 'that which is next', i.e., succession in time. Cf. *Phaedrus* 239d. In non-philosophical language the expression usually means 'in a row', 'adjacent', and less frequently 'succession in time'. In Aristotle's works it is widely used. *Phys.* 231a23 gives this definition: things are successive when they have nothing homogeneous between them²⁵. Points are denied to be successive (*G.C.* 317a9), but numbers are (*Mel.* 1085a4). – The notion of serial succession in space was probably developed under the influence of Zeno's theory of the continuous. Like Plato Aristotle also uses the expression to signify succession in time, as for instance in *G.C.* 337a35.

In this passus the terms do not have a sharply defined sense: they may signify both the view of atomists and the Academic theory according to which reality consists of a series of successive levels of being. In this view the circumference of the universe is prior to the central part.

If the universe is a whole, it obviously is an οὐσία, but even if it

²⁴ The question of unity and plurality in the cosmos also occurs in Plato's dialogues in as far as Plato 'wavers between a single world-soul animating the whole universe and a plurality animating its several parts' (R. Hackforth, *Plato's Examination of Pleasure*, p. 56; cf. *Phil.* 30b; *Laws* 890c ff.). In *Laws* 821a the universe is considered a divine being although its parts are distinguished the one from the other.

²⁵ Cf. 259a17: τὸ δ' ἐφεξῆς οὐ συνεχές. In *Meteor.* 373a21 the expression signifies close togetherness, or even touching.

consists of a plurality of beings, there will be substance which is the subject of qualities and process.

The terms ἡ οὐσία, τὸ ποιόν, τὸ ποσόν are usually understood as signifying three Aristotelean categories of being. On closer inspection however this is no longer so obvious: in the *Metaphysics*, the first category is more often than not called τὸ τί or τόδε²⁶. It is furthermore unusual that τὸ ποιόν precedes τὸ ποσόν²⁷. This is the more so since Aristotle here indicates that this is the only correct order (εἴτα... εἴτα...). On the assumption, however, that the terms evoke a division of being related to the Platonic scheme of reality, this order becomes meaningful, for in such a classification τὸ ποιόν denotes the *differentiae specificae*, and hence follows upon οὐσία together with which it belongs to the beings per se²⁸. Elsewhere in the *Corpus* the specific difference is sometimes called a ποιόν τι and ποιότης (*Top.* 122b16; 128a26). – The Platonic classification of things was probably at the origin of a scientific method which successively examines a thing itself, its essential properties, its size, place, etc.²⁹.

ἅμα δε οὐδ' ὄντα..., together with this study comes the investigation of things which are not even being in the full sense. Ross takes this line to refer to the preceding, τὸ ποιόν and τὸ ποσόν, and reads ἀλλά in a22.

Ross' interpretation does not seem correct for these reasons: (a) ἅμα δέ is likely to introduce a new thought; cf. its use in *Met.* 1008a30; *Phys.* 185a14, etc.; (b) if Ross' interpretation is right, τὸ ποιόν and τὸ ποσόν would not even be called being; (c) Aristotle would have chosen a very complicated way to say so. ἀλλά ταῦτα would have been much simpler; (d) this interpretation implies parity between ποιόν and ποσόν on the one hand, ποιότητες and κινήσεις on the other hand. But complete parity does not exist.

²⁶ Cf. 996b17; 1017a25; 1026a36; 1028a11; 1030b11; 1054a15; 1066a16. In 1030a19 τόδε τι and οὐσία are used together. *Met.* 1045b2 and 1050b16 have οὐσία.

²⁷ Cf. *Met.* 996b18; 1013a19; 1034b7; 1045b30; *De anima* 410a20, etc.

²⁸ Cf. the fragment of Hermodorus, ap. Simplicium, *In Phys.* 247,30 - 248,15 and *Met.* 1089b23: "(Plato) should not confine his ingenuity to things in the same category (and study) how substances and qualities are many." Now, in the section which preceded Aristotle blamed Plato for not explaining how the beings which are not per se can be many. It would, then, follow that quality belongs to the class of beings per se.

²⁹ *Top.* 105b15 and *De caelo* 1 cc, 2-9; Cf. P. Moraux, in *Revue thomiste* 1951, 113-136.

For these reasons, we should read with ps. Alexander (followed by Bonitz and Jaeger) οἷον³⁰. ταῦτα and οὐδ' ὄντα are referring forward; the ποιότητες and κινήσεις are not-being³¹. On the assumption that we have to do with the Platonic division of reality, such a statement would be quite natural, for relative being is characterized by 'the more and the less' and is indefinite. The class of relatives (comprising also the contraries) seems to have been called κινήσεις by Aristotle³². In this context the terms ποιότητες and κινήσεις are likely to denote qualities as colour, heat, well-being (all of which have contraries) as well as more passing affections (or changing size and shape).

ἢ καὶ κτλ. The translation of this difficult line is: "or else (alioquin) even the not-white and the not-straight" would be being. ἢ is equivalent of εἰ δὲ μή (see Kühner-Gerth II, 297, 4 where *Phaedrus* 237c and 245e are quoted. I have not found other instances in Aristotle). Aristotle apparently intends to say that if one posits that ποιότητες and κινήσεις are being (instead of not-being), one would be forced to say that even negative terms as not-white and not-straight are being.

Apparently, for Aristotle negative terms do not belong to οὐσία, ποιόν, ποσόν, but to "qualities and movements". This corroborates our interpretation, that we have to do here with a division of being inspired by Plato's diaeresis and reduction of being to first principles. In fact in a division and classification of things one line of the schema of the diaeresis was constituted by negative terms. For Plato this 'not-being' did not signify a purely logical negation of being³³, but 'that which is different' or 'that which tends towards definite being'. That Aristotle too attached some importance to the study of negative terms may be inferred from *Met.* 1004a9-13: "Since it is the work of one science to investigate opposites, and plurality is opposed to unity

³⁰ Alexander also drops the καὶ between ποιότητες καὶ κινήσεις. Bonitz, *Met.* 470, writes that, if we follow Alexander in reading ἢ (instead of the ἢ of the codices), we must also follow him in reading οἷον.

³¹ On οὔτως referring forward, see Bonitz, *Index* 546a40-47, Kühner-Gerth I, 646 and *E.N.* 1141b10. – Ps. Alexander 669,25 gives it a wider sense: τὰς παρὰ τὴν οὐσίαν κατηγορίας.

³² O. Apelt, 'Die Kategorienlehre des Aristoteles', in *Beiträge zur Geschichte der griechischen Philosophie*, Leipzig 1891, p. 150, concluded this from the fact that in certain enumerations of the categories τὰ πρὸς τι do not occur while αἱ κινήσεις are mentioned (cf. *Met.* 1029b23-5; 1054a5; 1071a2 etc.) as well as a class of being consisting in ποιεῖν ἢ πάσχειν.

³³ This is rejected as meaningless: see F. Cornford, *Plato's Theory of Knowledge* 252; H. Cherniss, *Aristotle's Criticism of Plato and the Academy*, pp. 131-170.

and it belongs to one science to investigate the negation and the privation, because in both cases we are really investigating the one being of which the negation or privation is a negation or privation".

λέγομεν γοῦν κτλ. That negative terms like not-white are not being in the full sense of the term, does not mean that they are nothing at all. The same doctrine is found in Plato's *Sophistes* 275b-258c, where after refuting Parmenides' dogma that 'that-which-is' cannot 'not-be' and 'that-which-is-not cannot be in any sense'. Plato concludes that negative terms like the not-tall signify a thing which is marked off from a definite kind of existing things (*Soph.* 257e).

In this text Plato apparently means by 'not-tall' or 'not-beautiful' any form other than 'the tall' and 'the beautiful'. Outside the theory of ideas (and the related Platonic theory of predication) negative terms have another meaning. In Aristotle's *Physics*, in fact, they are used to designate the absence of the form to be acquired in the process of becoming³⁴.

In our chapter these negative terms likewise appear to signify the absence of certain qualities or their contraries³⁵.

In the first section of the chapter οὐσία is said to be the subject of philosophical examination because it is basic and first. Aristotle now adds a second argument: things which are not οὐσία do not exist by themselves, – and thus are not the being we are searching for.

a24. ἔτι οὐδὲν τῶν ἄλλων χωριστόν. In Plato's *Parmenides* χωρίς is used on 5 occasions and signifies the independent existence of the ideas. The term χωριστός was probably coined in Plato's Academy. In the *Corpus* it signifies the separate subsistence of the ideas, but also the individual existence of substantial being³⁶. – For Plato only the ideal separate being of the forms is the object of true science, but in this context χωριστόν must signify the existence of concrete substances, for the chapter discusses the physical world.

³⁴ The relation between this negation and its positive opposite is called ἀντίφασις. See my *Aristotle's Theory of the One*, pp. 53-55.

³⁵ In *Met.* B 995b18-24 a type of study and inquiry is mentioned which deals with substances, their essential attributes, the same and the other, like and unlike, and contrariety, etc. This division agrees quite well with the one of these lines.

³⁶ Cf. P. Wilpert, *Zwei arist. Frühschriften*, pp. 38-39 and Xenocrates, fr. 30 H; E. de Strycker, 'La notion de séparation', in *Autour d'Aristote*, Louvain 1953, pp. 119-139, p. 138. See also J. D. Mabbott, 'Aristotle and the χωρισμός of Plato', in *Class. Quart.* 1926, 72-79; Chung-Hwan Chen, *Das Chorismos Problem bei Aristoteles*, Berlin 1940, pp. 175ff.

a25. That our philosophical inquiry must deal with οὐσία may also be inferred from the fact that the ancients investigated its principles and causes.

In addition to 'principles' and 'causes' Aristotle here also uses στοιχεῖον. According to Diels the term originally meant that which is placed in a row; hence it came to signify the members of a series, parts of a whole, constituent parts³⁷. Eudemus writes that Plato was the first to use it in its technical sense of an irreducible something with a nature of its own³⁸. Aristotle calls the basic principles of the Ionians (*Met.* 983b10) and numbers in the Pythagorean system στοιχεῖα. – He uses the expression ἀρχαὶ καὶ στοιχεῖα to designate Plato's forms, (*Met.* 995b28 [cf. 998a21]; 1070a34; 1081a15 'the One and the Dyad'; 1087a2; 1091a31) – Since Parmenides and his school assumed that the world is eternal, they could not believe in any ἀρχή. Hence of ἀρχαῖοι applies to pre-Parmenidean philosophers.

οἱ μὲν οὖν νῦν κτλ. According to this line Platonising philosophy was dominant at the time Aristotle wrote this passus³⁹. This agrees well with the assumption that the chapter is early. – The present tense τιθέασι is also noteworthy. Elsewhere, when speaking about Plato, Aristotle frequently uses the imperfect tense.

τὰ καθόλου, scil. κατηγορούμενα.

The parenthesis of a27-8 purports to explain the meaning of τὰ καθόλου. On the assumption that this chapter is the outline of a lecture or study program for the Academy or related circles, this observation is rather superfluous. It was probably added later when the text was made ready for publication.

τὸ λογικῶς ζητεῖν. The term λογικῶς here signifies an analysis of a notion without constant reference to concrete reality. Cf. *Met.* 1029b13; 1030a25; *Phys.* 204b6. – In *G.C.* 316a11 it is used to describe the method of study of the Platonists (who rather than examining concrete phenomena attempt to deduce conclusions from general

³⁷ Cf. W. Vollgraff, in *Mnemosyne* 1949, 89-115.

For the history of the term see H. Diels, *Elementum*, Leipzig 1899, and W. Burkert, Στοιχεῖον, in *Philologus* 103 (1959), 167-197. Burkert argues on good grounds that by its use in mathematics the term got the sense of 'basis' (Grundlage) and that of element.

³⁸ Apud Simpl., *In Phys.* 7,13.

³⁹ Ps. Alexander 670,17ff. thinks that not Plato is meant but contemporaries. This however seems wrong. Cf. also *Met.* 1053b13; and 992a32-b1. Robin, *Théorie*, p. 318, n. 276.

assumptions). – Ps. Alexander takes the terms in a depreciative sense adding καὶ κενῶς. Cf. *E.E.* 1217b21 where both terms are combined.

a28. οἱ δὲ πάλαι. In *Pol.* 1266b16 the expression signifies wise men of past ages like Solon. Here the terms indicate the same thinkers and philosophers as οἱ ἀρχαῖοι of line a25.

οἷον πῦρ καὶ γῆν. Hippasus of Metapontis and Heraclitus considered fire as a first principle; to Heraclitus it was the basic form of matter which remains for ever: when certain of its parts are extinguished, other parts of matter are rekindled⁴⁰. – It is not so easy to bring home the theory which made earth a principle. In *Met.* 989a5 Aristotle writes: "None of those who named one element claimed that earth was the element"⁴¹.

The pair of terms is said to have been used by Parmenides: although he considered being to be ungenerated and one, he accounted for the phenomena by assuming that two principles, fire and earth, are active. Cf. Parmenides A 1 and A 7 and Aristotle, *Phys.* 188a20-22; *Met.* 986b34; *G.C.* 318b7. – According to Aristotle the theory expounded in Parmenides' *Way of Seeming* contains the insights of popular wisdom (*Met.* 986b27-987a2). In view of this οἱ δὲ πάλαι (1069a28) are philosophers and wise men of Parmenides' time and of earlier centuries.

ἀλλ' οὐ τὸ κοινὸν σῶμα. As Bonitz observes, 470, κοινόν is the equivalent of καθόλου. Cf. *Met.* 1026a27 and *P.A.* 644a26. If so, the form (idea) of body is meant, and not a general bodily substrate. In fact, in *G.C.* 320b24 the sentence σῶμα γὰρ κοινὸν οὐδὲν occurs, in which the terms signify a body which would be a universal, like the Platonic forms. This common body was probably not considered to be the same as the spatial magnitudes, which Plato assumed to form part of the hierarchy of being, and which he placed after the numbers⁴². It seems to have been conceived as a sort of primary body, which already has

matter, but is not yet body or matter of a special nature⁴³. One may perhaps compare it to the concept of the *forma corporeitatis* in the philosophy of Avicenna.

According to Aristotle the ancient philosophers believed in individual substances, but not in such a general body. His remark conveys a criticism of this theory, but not necessarily a criticism of the theory of ideas.

In these lines, then, Aristotle points out that both in the past and in his own days philosophers studied the principles and causes of οὐσία, but he does not take sides in the question of whether οὐσία is found in individual substances rather than in universal forms. In his (later) theory of substance Aristotle will try to reconcile the naturalism of the ancients with Plato's doctrine which lays stress on universal essence⁴⁴.

a30-b2. In this passus, the text of which is heavily corrupted⁴⁵, Aristotle points out that οὐσία, the subject of the present inquiry, is threefold. In these lines οὐσία signifies class or realm (level) of being, a meaning which already occurs in Plato's *Republic* 479c⁴⁶. A division of being into three levels or classes is Platonic. Plato repeatedly speaks of intermediates between the ideas and sensible things. In the Seventh Book of the *Republic* we are told that there are three layers of being, of which the sensibles are many and perishable, the objects of mathematics are many and exist for ever (526a; 527b), whereas the idea is one and eternal. On several occasions Aristotle refers to this Platonic tripartition of being. Of particular importance is his statement in *Met.* 987b14ff. – Plato also held soul to be intermediate between the ideas and sensible things. This is attested at several places in the *Corpus* and explicitly set forth in *Tim.* 35a; there are immutable being, soul, and sensible things⁴⁷. Xenocrates also taught a tripartition of being

⁴⁰ Cf. *Met.* 984a7; 989a2; 996a9; 1001a15, and W. Jaeger, *The Theology of the Early Greek Philosophers*, 228, n. 5.

⁴¹ *De anima* 405b8 has a similar statement. – It is sometimes thought that Xenophanes believed the earth to be a principle (cf. fr. 27). However, with Guthrie, *HGrPh* I 386, I assume that the fragment in question rather than describing the ἀρχή of the world, is dealing with the origin of organic life from the earth.

⁴² Cf. *Met.* 992b13-18; 1080b23-28; 1090b37 - 1091a1.

⁴³ *De caelo* 270b20-4 contains perhaps an allusion to attempts made to conceive such a 'body in general'.

Plato would never have admitted such a general body for reason of the fact that it contained matter (his second principle is not to this extent material).

⁴⁴ O. Hamelin, *La théorie de l'intellect d'après Aristote et ses commentateurs*, Paris 1953, p. 4.

■ Bonitz, 471.

⁴⁵ See H. H. Berger, *op.cit.*, 88-93.

⁴⁷ Cf. F. Cornford, *Plato's Cosmology*, pp. 60-62. – Some accounts of this doctrine place the objects of mathematics at the second level (cf. *Met.* 987b14 - 988a15). As to the first level a distinction must be made between forms and their ele-

distinguishing between the objects of *noûs*, the objects of *δὲξα* (the celestial beings) and sensibles⁴⁸. The objects of *δὲξα* are both sensible and intelligible. Some commentators assume that the tripartition in the text is that of Xenocrates⁴⁹. However, on closer inspection this seems improbable, for the text states that the *first* class of being is perceptible being which is *subdivided* into eternal being and perishable being. – There are some difficulties in the text (a31, 32): (a) *ἦν πάντες ὁμολογοῦσιν*. Ps. Alexander transposes the terms to a30 (placing them after *αἰσθητή*), apparently because it is obvious that all must acknowledge the existence not only of sublunar things, but also of the celestial bodies. Cf. *Met.* H 1, 1042a6-11. Themistius 3, 3-4, renders the text as follows: "Substantiae autem universae sunt res, quarum duas omnes homines fatentur", and as an explanation he adds that this is because these substances are visible. This transposition does not seem necessary: even at its present place *ἦν* can refer to both eternal and perishable things. – Ross suggests that the remark only applies to perishable being. This is very unlikely: even if in the past certain philosophers, as, for instance, Empedocles, had not admitted the eternity of the celestial bodies, in Aristotle's days there were hardly any divergent views concerning this point.

Aristotle then continues with his account: as to the next level of being some admit a subdivision, some not, but as to the sensible things all admit a subdivision. (b) Ross and Jaeger following Themistius and Alexander (as quoted by Averroes) rightly excise *ἡ δ' αἰδῖος* in a32. The terms do not belong here because *ἡ δ' ἀνάγκη* κτλ. certainly also refer to perishable things⁵⁰: '(to know this class of being) we must know its elements'.

οἶον τὰ φυτὰ καὶ τὰ ζῷα. It is strange that this example is given and the elements are not mentioned. The words are probably a gloss, or what is left over of a more complete enumeration. See *Met.* H 1, 1042a6-11.

ments, while at the second level the objects of mathematics are subdivided into numbers and 'lines, planes, and solids that come after the numbers'. Some considered these magnitudes a fourth class (*Met.* 992b13-18).

⁴⁸ Fr. 5 H (*Adv. Math.* VII, 147): *Ξενοκράτης δὲ τρεῖς φῆσιν οὐσίας εἶναι*.

⁴⁹ Cf. H. Kraemer, *Geistmetaphysik*, 175.

⁵⁰ Cf. Ps. Alexander 670,31-33. – Recently P. Gohlke, *Die Entstehung der Aristotelischen Prinzipienlehre*, Tübingen 1954, p. 65, pleaded to retain the terms. He is forced to admit that in his interpretation the text says that some people only acknowledge the existence of perishable things, and that Aristotle invites us to study the elements of the heavens only.

ἡ δ' ἀνάγκη τὰ στοιχεῖα λαβεῖν. Ps. Alexander, 670, 31-34, takes the words to refer to sensible things, both corruptible and incorruptible, but Themistius, 3, 8-9, seems to believe that the remark only applies to corruptible things: "atque huius (scil. corruptibilis) tantum substantiae elementa et fundamenta in praecedentibus sermonibus sumuntur". Alexander himself, apud Averroem, *In Metaphys.* XII (edit. Venetii 1562, 292 I), assuming that *ἡ δ' αἰδῖος* in a32 is a gloss, takes the words to refer to both corruptible and incorruptible being, but he also mentions a second reading (*ibid.* 292 L) with *ἡ δ' αἰδῖος*, of which the *ἡ δ' ἀνάγκη* would be an explanation. In spite of the fact that Alexander himself adopts the first reading ('sed prima scriptura est melior'), Averroes, *i.h.l.*, and St. Thomas, *In XII Metaph.*, lect. 2 (2425), think that only the celestial bodies are meant. The reason why they choose this somewhat difficult explanation (which forces them to give *στοιχεῖα* the meaning of extrinsic causes) is that they wanted to find in this text a reference to first philosophy. (In 1069b1 the division of sciences is not sufficiently explicit).

However, in view of the context it would be strange if, instead of more suitable terms like *ἀρχαί* and *αἰτία* which occur in the chapter, *στοιχεῖα* would be used to signify extrinsic principles. Moreover, cc2, 3, 4 and 5 deal with the principles of sensible things and discuss matter and form. *εἶτε ἐν εἶτε πολλά*, therefore, probably refer to the fact that some physical philosophers assumed a unique constitutive element for all bodies whereas others admitted a plurality of such elements (cf. 1069a28-29). – The exposé of the first chapter of A is definitely written in terms of formal causality. (cf. 1069b1: *εἰ μὴδεμία αὐτοῖς ἀρχὴ κοινή*). One may compare *Theaet.* 203d: *προγινώσκειν τὰ στοιχεῖα ἅπαντα ἀνάγκη*.

ἄλλη δὲ ἀκίνητος καὶ ταύτην φασὶ τινες εἶναι χωριστήν. The next level is constituted by unchangeable being. – *Χωριστός* here must mean 'existing apart from the sensible world' and not only 'existing by itself', for everyone admits that the unchangeable οὐσία is *χωριστή*, i.e., exists by itself. Hence the *τινες* are Platonists. Our text says that unchangeable things are subdivided by some into the classes of ideas and mathematical entities. This is undoubtedly the view of Plato himself who made ideas and mathematical objects separate οὐσίαι⁵¹.

⁵¹ Cf. *Met.* 1028b19: *ὥσπερ Πλάτων τὰ τε εἶδη καὶ τὰ μαθηματικά δύο οὐσίας*. – The objects of mathematics occupy an intermediate position and "differ from sensible things in being eternal and unchangeable, from Forms in that there

The text continues by saying that others identify Forms and the objects of mathematics, others again admit only the existence of the latter.

In *Met.* 1028b24-26 a theory is mentioned according to which Forms and numbers have the same nature. Asclepius ascribes it to Xenocrates, *In Met.* 379, 17⁶³. Recently Ph. Merlan warned against accepting this identification too easily in view of Theophrastus, *Metaph.* 6b8-9, where Xenocrates is reported to have made a distinction between the objects of mathematics and forms⁶³. To this I answer that even if Xenocrates considered forms and objects of mathematics to be 'of the same nature', i.e., of the same class of being, he may still have made a certain distinction between them, just as Plato also made a certain distinction between principles and forms. Theophrastus may have had in mind such a distinction.

Also elsewhere Aristotle mentions a theory of certain philosophers in which only the existence of the objects of mathematics is admitted. Cf. *Met.* 1086a2-5: "For those who make the objects of mathematics alone exist apart from sensible things, seeing the difficulty about the Forms and their fictitiousness, abandoned ideal number and posited mathematical" (Oxf. Transl.). A comparison of these lines with several other texts (1028b21-24, 1075b37-1076a3, 1090b13-20) shows that the theory is that of Speusippus.

a36. ἐκείναι obviously refers to the sensible οὐσίαι of a30, which consists of perishable and imperishable things (these are the object of physics), αὐτῇ to the ἀκίνητος οὐσία of a33. Because both οὐσίαι have no principles in common, they are the object of different sciences.

The doctrinal contents of these short lines are important:

(a) the different levels or realms of being have no principles in common (b1). — In *Met.* B4, 1000a5 Aristotle writes that one of the greatest problems in philosophy is the question of whether the principles of perishable and imperishable things are the same. Here he asserts that different οὐσίαι do have different principles. This does not imply that Aristotle joins the group of Speusippus in making of the universe a poorly composed tragedy, the various parts of which have no connection the one with the other. Aristotle's own view is that the

many alike, while the Form is in each case unique" (*Met.* 987b14-18, Oxf. Transl.). Plato subdivided the objects of mathematics into numbers and spatial figures assigning to each class a different level of being.

⁶³ Cf. Ross, *Metaphysics* I, LXXIV-LXXVI.

⁶⁴ From *Platonism to Neoplatonism*, p. 40.

universe consists of a series of beings, the essences of which are mutually related in such a way that beings at a higher level contain the perfection of things at a lower level. Yet Aristotle does not go all the way with the Platonists whom he mentions in *Met.* N 3, 1090b20ff., and according to whom the successive levels of beings would have common principles. Since Aristotle is likely to have these Academic doctrines in mind, we should understand ἀρχή as a constituent element, as for instance, lines, planes and solids. Cf. also *De anima* I 2, 404b16-30⁶⁴.

(b) a second implication of this passus is that the sciences are to be divided according to the levels of reality.

(c) if unchangeable being and sensible things would have a principle or constitutive element in common, one science would study both levels of being. This science would be a general science of principles, perhaps similar to the discipline by which Plato tried to reduce reality to the same first principles, or to the general science of being, which Aristotle mentions in *Metaphys.* Γ. However, here Aristotle does not seem to admit such a general science.

Having arrived at this point we face the question of which is the third level of being. This question, which is not unambiguously answered in the text, becomes the more pressing when we remember that in *Met.* E 1, 1026a13-16 Aristotle distinguishes between two levels of being only⁶⁵. Ps. Alexander, 670, 37ff. understands the three realms to be perishable things, eternal sensible things, and forms or principle(s). The wording of the text intimates that the division into sensible things and forms constitutes the first two levels of being only, and the third level does not yet seem to be mentioned. Yet, taking into consideration the corrupt state in which the text of this section has come to us, Alexander's interpretation cannot forthwith be discarded. It is supported by the fact that this tripartition is explicitly stated in chapter 6, 1071b3: ἐπεὶ δ' ἦσαν τρεῖς οὐσίαι, δύο μὲν αἱ φυσικαὶ μία δ' ἡ ἀκίνητος. On this assumption Aristotle would have said that we get three levels of being, either by subdividing the sensible things (as

⁶⁴ I. Düring, *Aristoteles*, 190, n. 40 assumes immobility and motion to be the respective principles of the two levels of being. We must not forget, however, that in Plato's later philosophy movement is made dependent on the presence of the indeterminate principle and on progress from the line to the regular bodies. See K. Gaiser, *Platons ungeschriebene Lehre*, 180, 187-9; Elders, *Aristotle's Cosmology*, p. 17.

⁶⁵ The objects of mathematics do not constitute an οὐσία.

Xenocrates did) or by subdividing the immovable things (as Plato did). Opposed to it is the wording of the text as well as the fact that sensible things – in Aristotle's theory – appear to constitute one realm of being only⁶⁶. Likewise Plato never made the imperishable *bodies* a new realm of being. Plato divided reality into form, mathematical objects and sensible things (*Met.* 1028b19; 1090b20-27; 32ff.⁶⁷). Speusippus assumed that reality consists of a series of unrelated levels, but Xenocrates divided reality again into three realms: intelligible being, the heavens, sensible things; the heavens are composed of the being of the highest and lowest level⁶⁸.

I would hesitatingly advance the view that the third οὐσία of A 1 is the Unmoved Mover which will be discussed in cc. 6-10. For Plato the supreme principle is beyond being (*Rep.* 509b), but in his later theory, Plato had to ascribe to the One causality (presence) with regard to the things of which it is the most fundamental principle⁶⁹ and so it came to constitute the highest level in his hierarchy of being. Aristotle would have followed Plato in making of subsistent thinking the highest reality. On this assumption, in A 1 Aristotle would have admitted a second realm of being (comprizing forms or principles), between sensible things and a Supreme Principle. That Aristotle did hold this view is intimated by several texts which refer to things beyond this world⁷⁰.

⁶⁶ See *Met.* 1026a13-16. I concede however that the *De caelo* considers the celestial bodies to be fundamentally different from sublunar things. Xenocrates also made a sharp distinction between these two realms.

⁶⁷ See K. Gaiser, 'Quellenkritische Probleme der indirekten Platonüberlieferung', *Abh. Heidelb. Ak. d. W. Phil. hist. Kl.* 1968, 2, 46.

⁶⁸ Sextus, *Adv. Math.* VII, 147. Xenocrates did make a distinction between supreme principles and ideas. Cf. Theophrastus, *Met.* 6a14ff.: *Doxogr. gr.* 288b15; 304b1.

⁶⁹ Cf. *Met.* A 6: τὸ μὲντοι γε ἐν οὐρανῳ εἶναι. The fragment of Hermodorus speaks of τοῦ ἐνὸς στοιχείου. According to A. L. Peck the upshot of the argument of the first hypothesis of the *Parmenides* is that the One cannot be separated from 'is' (*Class. Quart.* 1953, p. 131).

Xenocrates identified the One with νοῦς: cf. Aetius, *Plac.* I, 7, 30 (*Doxogr. gr.* 304b1).

⁷⁰ Cf. I. Düring in *Aristotle and Plato in the mid-fourth Century*, p. 48: "... (Aristotle) sometimes speaks as if he believed in 'landmarks' outside the phenomenal world or in transcendent entities of some kind". Prof. Düring, however, thinks that actually Aristotle always denies the separate existence of universal principles. This position is contradicted by texts like *De caelo* 279a18 which unequivocally posit such separate entities.

If this suggestion is correct, its implication is that Aristotle gave being back to the supreme principle. Whatever interpretation we prefer, the commentary has shown that in general the first part of chapter one must be read against the background of Plato's theory of being.

1069b3. After the introductory chapter we would expect a systematic treatment of the three οὐσίαι with special attention to their formal principles and causes. The following chapters, however, do not fulfil this expectation. The οὐσία of the celestial bodies is not discussed nor are we told which, in Aristotle's own doctrine, is the second οὐσία. From this we can infer that Book XII has not been composed as one unit, but consists of summaries of lectures (or papers) on the theme of being, especially of the First Being.

It is best to have chapter two begin at 1069b3. – The text provides an explanation of why, at the level of sensible being, there is matter: sensible being is subject to change. Change is a movement from one contrary, or from the middle state, to the other contrary, and there must be a substratum which remains. This is matter. – There are four kinds of change, viz. change in respect of the essence, quality, quantity and place. All change is from the potential to the actual. – The doctrine of matter was intimated by Anaxagoras, Empedocles, Anaximander and Democritus. – There are different kinds of matter and three principles, viz. form, privation and matter.

ἡ δ' αἰσθητὴ οὐσία μεταβλητή. – In *Phys.* III the term μεταβολή is used to signify change in general, including generation and destruction, growth and diminution and also locomotion. It is largely synonymous with κίνησις, with this difference that κίνησις is not often used to signify generation and corruption¹. In the *De caelo* Aristotle writes that the revolving first body is ἀμεταβλητός, thereby excluding from it alteration and corruption (279a32; 288b1). The same doctrine is contained in lines 1069a30-1 above. In view of this it is surprising that Aristotle now says without qualification that sensible being is changeable. An even stronger statement is B 999b4: τὰ γὰρ αἰσθητὰ πάντα

¹ In his *Parmenides* 156c and 162c Plato uses the term to signify the passing from one state of being to another.

φθίσκεται. Perhaps we have to do with a loose expression in which 'sensible' only denotes sublunar things. It is also possible that the statement reflects a stage of Aristotle's thought, at which he no longer ascribed unqualified incorruptibility to the celestial bodies. We do find some indications of such a doctrinal development in the *Corpus*: *Met.* E 1, 1026a10 says that if there is something free from movement and eternal, it will be the object of theoretical science. Apparently eternity is related to being free from movement. *Met.* N 2 appears to give what amounts to a definite degradation of the celestial bodies: "However everlasting number or anything else that has matter is, it must be capable of not existing." Aristotle adds that what he is saying now is true universally: no substance is eternal, unless it is actuality (1088b5)².

ἡ μεταβολὴ ἐκ τῶν ἀντικειμένων ἢ τῶν μεταξύ.

In the process of becoming a quality always succeeds its opposite: what becomes white was not-white before. Not any not-white (e.g. voice), however, will turn into white, but only that which is capable of becoming so³.

The theory of change as a process from one opposite to another is proposed in *Phys.* I, cc 7, 8 and 9. Cf. also *Phys.* V 3⁴.

οὐ γὰρ τὰ ἐναντία μεταβάλλει. Depending on the sense in which ἐναντίος is used Aristotle can say that contraries change or do not change into one another. A black thing becomes white, but black itself does not become white. Cf. *Met.* 1044b25. *Phys.* 190a17-18, provides a close parallel: καὶ τὸ μὲν ὑπομένει, τὸ δ' οὐχ ὑπομένει...

1069b7-9. *Phys.* 190a33ff. is more explicit: in accidental change it is obvious that there is a permanent subject; in the case of substantial change there must likewise be such a ὑποκείμενον.

b9-14. The argument is: if there are four types of change <all of which take place between contraries>, change will always be from one state to its contrary.

² An echo of this 'criticism of the eternity of the celestial bodies' can be heard in the *Metaphysics* of Theophrastus, 5a23 and 6a5.

³ It is better to read καὶ ἡ φωνὴ with ps. Alexander, Essen, Christ and Jaeger.

⁴ The latter text divides the opposites into a class of contraries having a mean, and a class (τὰ κατὰ ἀντίφασιν) in which there is no mean. *Physics* I points out that in order to explain change it is not necessary that there is a pair of contraries: by its presence or absence one contrary quality produces change (191a5). In fact, Aristotle's theory of matter and the concepts of 'presence', 'absence' and 'capacity' explain becoming.

The doctrine that change takes places only in four categories is stated in *Phys.* 200b33. Cf. 201b18; *Met.* 1042a32-1042b3; 1088a31-33. In *Phys.* V 2 a statement is found which seems to contradict this: there is no movement in respect of *substance*, but only in respect of quality, quantity and place. Cf. 243a6; 260a22; *De caelo* IV 3, 310a23. This discrepancy may – in part – be explained by the use of a different vocabulary, viz. in V 2 a distinction is made between *κίνησις* and *μεταβολή*⁵.

τὸ τί denoting the first category is also used in *Met.* 989b12; 1045b33 and 1089b8. More frequent is τὸ τί ἐστίν.

ἀλλοίωσις δὲ ἢ κατὰ τὸ πάθος. Aristotle often uses ἀ. κατὰ τὸ ποιόν. See 1088a32; *Phys.* 226a26; 243a36; *De caelo* 270a27; *G.C.* 317a, however, has ἀ. ἐν τοῖς πάθεσιν.

εἰς ἐναντιώσεις, pairs of opposites in the categories of substance, quantity, quality, place. For a more detailed explanation see *Phys.* VI, 9, 241a26ff.; VIII 7, 261a32ff.; *G.C.* II 4.

b14-20. The substratum which changes must be capable of becoming each of the two contraries. – We would expect the construction τὴν ὅλην μεταβαλλομένην δυνᾶσθαι, but Aristotle resorts to an enallage. – The term ὅλη is vague and means the subject in both substantial and accidental changes.

Δυναμένην ἄμφω. For the absolute use of the verb δύνασθαι see also *Met.* 1051a10, 14. It was probably first used in such an absolute sense in mathematics by Theaetetus⁶.

In b16-17 Aristotle fails to give an example of the 'potential' in the case of locomotion, because it is difficult to visualize place. All changes take place in a subject which is in potency, i.e., not-being, in respect of the terminal of the change. In a sense this starting-point is 'what is not', in as far as it is a privation, but potentially it is the terminal of change – *Phys.* 187a26-29 asserts that it is the commonly held view of the physicists that nothing comes to be out of what is not.

b20-32. In this section Aristotle argues that several of his predecessors intimated his theory of potency and actuality. This continuity between his own doctrine and that of previous philosophers is a matter of importance to Aristotle; he also draws attention to it in *Phys.* I 9 and *Met.* A 5. – Aristotle can put the systems of Anaxagoras, Em-

⁵ See Ross, *Aristotle's Physics*, 45-48.

⁶ Ch. Mugler, *Dictionnaire hist. de la terminol. géom. des Grecs*, p. 152.

pedocles, Anaximander and the atomists on one line, because they all have something in common: that which comes into being is present already in the mixture or matter in which the process takes place, for nothing can come into being out of what does not exist. – In *Phys.* I 4 Aristotle argues that the physicists explain becoming either by assuming that one of the elements is the underlying body, or by means of the theory that the contraries are contained in the One and emerge from it by separation.

The first philosopher whose theory is mentioned is Anaxagoras. Aristotle calls his principle 'the One' and says that this is a better name for it than "everything together"⁷. In the extant fragments of Anaxagoras the view that things which are to become are already contained in the previous thing is frequently expressed by the assertion that "there is a portion of everything in everything". When discussing Anaxagoras' doctrine Aristotle often mentions the expression ὁμοῦ πάντα χρήματα, giving it the sense that *originally* all things were together, for we now see things become from one another. Cf. *Phys.* 203a25. In *Phys.* 250b24-26 Anaxagoras is said to have stated that all things were at rest and together for an infinite period of time *until* Mind introduced motion⁸. This meaning given to the ὁμοῦ πάντα is borne out by Anaxagoras B 1 (= Simpl., In *Phys.* 155, 23ff.). Yet elsewhere Aristotle also uses the expression to designate an actual state of being: all things are mixed together so that nothing really exists as such (*Met.* Γ 4, 1007b26)⁹.

The reason why Aristotle here replaces this expression by 'the One' is perhaps its ambiguity.

In *Met.* 989b16 Aristotle interprets Anaxagoras' theory comparing it with Plato's theory of principles and says that Mind could stand for the One, the mixture for the indefinite. In view of this text it would be strange, Jackson argued, if in A 2 the mixture were called the One;

⁷ As we shall see the precise sense of the expression is a matter of discussion.

⁸ Cf. also *G.C.* I 10, 327b20.

⁹ There has been much speculation on the meaning of τὰ πάντα ὁμοῦ and ἐν παντί παντός μοῖρα. One group of commentators (in particular F. M. Cornford, *Cl. Quart.* 24 (1930), 14ff.; 83ff.) maintained that only the opposites as inseparably fused factors would be together in the mixture. However, the obviously right interpretation, proposed by Peck, *Cl. Quart.* 28 (1934), p. 27, Kirk and Raven, *op. cit.*, 376, R. Mathewson, *Cl. Quart.* 52 (1958), 67ff., Guthrie, *HGP* II, 284-5, is that the words mean what they say. This doctrine had become possible owing to a new notion of infinity.

hence he suggested to read $\delta\upsilon$ for $\epsilon\upsilon$ ¹⁰. Against this may be advanced that Anaxagoras' mixture is said to be $\epsilon\upsilon$ in *De sensu* 447b10 and *Phys.* 187a21¹¹. – Moreover line b31 of the text indicates that Anaxagoras did assume the material principle to be one ($\acute{\omega}\sigma\tau' \epsilon\iota \kappa\alpha\iota \acute{\eta} \delta\lambda\eta \mu\acute{\iota}\alpha$).

b21-22. Empedocles assumed that the physical world consists of a mixture of elements (Aëtius I 7, 28): by introducing four elements and the moving force of Love and Strife he overcame Parmenidean monism. Cf. *Phys.* 187a23.

In this passus Aristotle does not seem to make a distinction between the monism of Anaximander and the pluralism of later philosophers, whereas in *Phys.* 187a20 such a distinction occurs. Our text is somewhat carelessly written and mainly refers to Empedocles, – Anaximander being brought in by a zeugma¹². There is a certain analogy between their respective views in as far as both philosophers make the world the result of a process of separation. According to Anaximander the universe came forth from the infinite which is $\pi\alpha\rho\alpha \tau\acute{\alpha} \sigma\tau\omicron\iota\chi\epsilon\iota\alpha$ ¹³; to Empedocles the whole process of change remained limited within the original mixture; cf. *Phys.* 187a12ff. where (a22) Anaximander and Empedocles are also mentioned together, and Aristotle sees the main difference between their views in the fact that Anaximander assumes a single series of changes, Empedocles cyclical change.

In *Phys.* 203a20 Democritus is reported to have postulated an original mixture in which atoms of different shape and size were together. Cf. *De caelo* 303a16; *De anima* 404a3. Democritus is likely to have coined the term $\pi\alpha\nu\sigma\pi\epsilon\rho\mu\acute{\iota}\alpha$ to signify this togetherness¹⁴. For this reason Democritus' thought on this point may be compared with that

¹⁰ *Journal of Philology* 29, p. 129.

¹¹ See Ross, *Metaphysics* II, p. 351.

¹² E. Zeller, *Ph.Gr.* 1 204 n. 1; U. Hölscher, *Hermes* 81 (1953), p. 262; H. B. Gottschalk, *Phronesis* 10 (1965), p. 39.

¹³ *Phys.* 204b23-24. Anaximander does not seem to have made it very clear what the precise nature of the infinite was. At least Aristotle was puzzled as to whether Anaximander conceived it as a sort of mixture or as an elementary body prior to the things to be made out of it. Cf. G. S. Kirk, *Cl. Quart.* 49 (1955), 24ff. As Kirk suggests, *op.cit.*, Aristotle knew that Anaximander used terms like $\acute{\alpha}\pi\omicron\chi\rho\acute{\iota}\nu\epsilon\sigma\theta\alpha\iota$ and $\acute{\epsilon}\kappa\chi\rho\acute{\iota}\sigma\tau\iota\varsigma$ or postulated opposite substances in a secondary stage of the cosmic process. In either case Aristotle could assume that Anaximander's infinite contained the opposites.

¹⁴ Cf. *Phys.* 203a20. This theory is perhaps intended as a correction of Anaxagoras' "a portion of everything in everything". Aristotle uses the term $\pi\alpha\nu\sigma\pi\epsilon\rho\mu\acute{\iota}\alpha$ with reference to Anaxagoras in *G.C.* 314a29. Cf. also *Timaeus* 73c.

of Anaxagoras and Empedocles. Line b22-23, however, $\acute{\omega}\varsigma \Delta\eta\mu\omicron\kappa\rho\iota\tau\acute{\omicron}\varsigma \phi\eta\sigma\iota\nu \acute{\eta}\mu\acute{\iota}\nu \pi\acute{\alpha}\nu\tau\alpha \delta\upsilon\nu\acute{\alpha}\mu\epsilon\iota, \acute{\epsilon}\nu\epsilon\rho\gamma\epsilon\iota\alpha \delta' \omicron\upsilon$, is strange. We can perhaps ascribe a vague notion of the theory of potency and actuality to Anaximander and Anaxagoras, but to ascribe the formulation of the theory of potency and actuality to Democritus is meaningless because his atoms are completely immutable and always actually present¹⁵. For this reason Bonitz, *Metaphysica*, 473, Ross and Jaeger in their respective editions of the text make a halfstop after $\phi\eta\sigma\iota\nu$ considering $\kappa\alpha\iota \text{'Εμπεδοκλέους... φησιν}$ a parenthesis. Jackson, Ross and Jaeger connect the words with $\beta\acute{\epsilon}\lambda\tau\iota\omicron\nu \gamma\acute{\alpha}\rho \acute{\eta} \text{'όμοῦ πάντα}$. – I hesitate to admit this construction because $\beta\acute{\epsilon}\lambda\tau\iota\omicron\nu \kappa\tau\lambda.$ appear to be connected with the preceding $\epsilon\upsilon$. Moreover, in this interpretation the statement on potential and actual being applies not only to Anaxagoras, but also to Anaximander and Empedocles. For this reason it seems better to assume that one or two lines were dropped, as for instance: $\acute{\omega}\sigma\tau\epsilon \lambda\acute{\epsilon}\gamma\omicron\upsilon\sigma\iota \mu\acute{\epsilon}\nu \omicron\upsilon\tau' \acute{\omicron}\rho\theta\acute{\omega}\varsigma \omicron\upsilon\tau\epsilon \sigma\alpha\phi\acute{\omega}\varsigma, \beta\omicron\upsilon\lambda\omicron\nu\tau\alpha\iota \mu\acute{\epsilon}\nu\tau\omicron\iota \tau\iota \pi\alpha\rho\alpha\pi\lambda\acute{\eta}\sigma\iota\omicron\nu \tau\acute{\omega} \text{'ἦν μὲν πάντα δυνάμει, ἐνεργείᾳ δ' οὐ}$ ¹⁶. The statement would then be a reformulation in Aristotle's own terms of what some of his predecessors tried to say.

Ross following a marginal note in E writes $\acute{\eta}\nu \acute{\omicron}\mu\omicron\upsilon$ in b23. The codices have $\acute{\eta}\mu\acute{\iota}\nu$ which is also the reading of Moerbeke and Averroes¹⁷. With $\acute{\eta}\mu\acute{\iota}\nu$ Aristotle would allude to a previous exposé, perhaps that of the *De philosophia*. Jaeger writes $\mu\acute{\epsilon}\nu$ and this solution, besides being elegant, is that requested by our commentary which assumes that this line reformulates not only the doctrine of Anaxagoras, but also that of Empedocles Anaximander and Democritus.

H. de Ley objects as against this reconstruction that Jaeger does not explain from where the extra H of HMIN in the codices came. Transposing $\kappa\alpha\iota \text{'Εμπεδοκλέους... φησιν}$ to b21 (after $\tau\acute{\omicron} \text{'Αναξαγόρου εἰν}$) he proposes to read: $\beta\acute{\epsilon}\lambda\tau\iota\omicron\nu \gamma\acute{\alpha}\rho \acute{\eta} \text{'όμοῦ πάντα ἦν}$ " $\acute{\eta}\nu \mu\acute{\epsilon}\nu, \pi\acute{\alpha}\nu\tau\alpha \delta\upsilon\nu\acute{\alpha}\mu\epsilon\iota, \acute{\epsilon}\nu\epsilon\rho\gamma\epsilon\iota\alpha \delta' \omicron\upsilon$ ". De Ley also thinks that in this way the construction of the entire passus becomes smooth¹⁸. This reconstruction is certainly possible, but has the disadvantage that the $\acute{\omicron}\mu\omicron\upsilon \pi\acute{\alpha}\nu\tau\alpha$ would be used to express the views of all four philosophers whereas it only applies to the

¹⁵ Cf. *Met.* 985b4ff. Ps. Alexander 673,19-22, nevertheless attributes the words to Democritus himself.

¹⁶ Cf. *Met.* 1009a28-30; 989b19-20.

¹⁷ See Freudenthal, *Die durch Averroes erhaltenen Fragmente Alexanders zur Metaphysik des Aristoteles*, *Abh.d.kl.preuss.Ak.d.Wiss.*, Berlin 1885, p. 97 (fr. 9).

¹⁸ Aristotle, *Metaphysics* A 2, 1069b20-24, in *Mnemosyne* XXII (1969), 195-197.

view of Anaxagoras. Moreover, for stylistic reasons it is questionable whether Aristotle would ever have written ὁμοῦ πάντα ἦν ἦν μὲν κτλ. since the first ἦν is not necessary. – On the balance Jaeger's emendation coupled with the assumption of an omission is to be adopted.

b23. ὥστε τῆς ὕλης ἂν εἶεν ἡμμένοι.

ἄπτεσθαι here as elsewhere in the *Corpus* indicates a knowledge which apprehends only part of the truth. One may compare this line with what Aristotle writes in *Met.* 986b19 and *Phys.* 191b35, where certain of his predecessors are said to have intimated the notion of primary matter.

b24-26. All things that change have matter, but matter is different in different things. For example, matter in the celestial bodies is only the capacity to move from one place to another. – The meaning of ἀλλ' ἑτέραν apparently is that for a different type of change a different type of matter is required. Cf. *Phys.* 194b9: ἀλλὰ γὰρ εἶδει ἄλλη ὕλη – Bonitz, *Observ.* 125, proposed to read ἀλλ' ἑτέρα ἑτέραν. But Schwegler seems right in that ἕτερος already means 'different in se'. Compare the use of ἄλλο in 1071a28 (for ἄλλο ἄλλου).

The terms ποθεν ποί are used to describe the capacity for locomotion. Cf. *De caelo* 311b33: ἡ δὲ φορὰ γένεσις ποθεν ποί¹⁹.

b26-28. Two interpretations of these lines are possible: (a) they take up again what was stated in 1069b19-20, viz. that becoming starts from not-being, i.e., from that which is not the form or quality to which the subject is moving. – On this assumption the lines are out of place, and are perhaps a marginal note which was inserted into the text²⁰. For this reason Jaeger, in his edition of the text, observes that the lines do not belong here. According to ps. Alexander, 674, 4-6, the three types of not-being are: that which is not at all; that which is not true; that which is not actually. Themistius, 5, 28, however, takes the second class of not-being to be privation. One may compare Aristotle's own explanation as presented in *Met.* 1089a16-31²¹. Even when we consider the two lines an insertion, the text of the last part of the chapter does not become very smooth, for in b29 the theory of Anaxagoras is mentioned again. – (b) a different interpretation is advanced

¹⁹ Cf. *E.N.* 1174a30.

²⁰ The gloss is modelled after texts as *Phys.* 225a20.

²¹ Alexander says that the first type of not-being is what is not at all, whereas in 1089a16-31 not-being in respect of a category of being is meant (e.g., what is not man).

by Bonitz who sees in these lines the concise formulation of a new argument: all philosophers would agree that coming-into-being departs from not-being, but Aristotle establishes that only that what is in potency qualifies as a starting-point for change. The conclusion which comes in b28 would – if fully stated – run: εἰ δὲ ἔστιν ἐνεργεία μὲν μὴ ὄν, δυνάμει δὲ ὄν, ἐκ τούτου ἂν ἡ γένεσις εἴη (after ps. Alexander). – Against this interpretation pleads that the εἰ δὲ τι ἔστι δυνάμει of b28 rather than being the conclusion of an argument appears to bring a more precise formulation of b23. Hence it seems better to consider the lines an insertion.

b28-32. Aristotle points out that although one may summarize the views of his predecessors in the principle "all things were together potentially, but not actually", some further restrictions must be added: (a) not everything comes forth from everything; in order to produce a special thing a special matter is necessary (*Phys.* 189b23). Every δυνάμει ὄν has a potentiality to a definite number of forms (*Phys.* 194b9; *Met.* 1043a12-13); (b) the ancients unduly insisted on the ὁμοῦ. – By this criticism Aristotle wants to say that 'being in potentiality' does not yet mean real togetherness, or that there is also succession in the cosmos and that not everything was originally present. Cf. 1074b1-4.

Lines b30-32 come back to (a): if there would only be one type of matter, there would be one material world. In Anaxagoras's view Mind would then be the actuality of what this matter would be potentially. But if this were the case, the differences between material things could no longer be explained. It is perhaps on purpose that Aristotle mentions Anaxagoras' theory of Mind again: in doing so he wants to intimate that all beings are suspended between the pure actuality of Noûs and the pluriformity of matter.

The concluding lines of chapter two agree with *Phys.* I 6 where Aristotle also argues that change is best explained if there are three principles. Somewhat unexpectedly he closes the chapter in 189b28 by saying that the question of whether there are two or three principles is one of considerable difficulty.

Here Aristotle writes τρία τὰ αἷτια καὶ τρεῖς αἱ ἀρχαί. These three causes are also ἀρχαί because they are intrinsic principles; the term ἀρχαί has the additional advantage of stressing the continuity of Aristotle's own view with the theories of his predecessors.

The term λόγος indicates the formal constituent of things which is

expressed in the definition of their essence²². It is frequently used together with εἶδος to signify the essence of things, as for instance in *Phys.* 209a21-22 and *Met.* 1036b5.

CHAPTER THREE

Chapter three consists of a number of notes which further elucidate the function of form and matter in the process of change: matter itself does not become, but is that which is changed; form is that into which something is changed, but does not change itself. – Next Aristotle points out that things come into being out of things of the same kind. – Then he deals with the question of whether the individual can exist apart from concrete things. Finally Aristotle discusses the simultaneity of causes with their effects.

As Ross observes, 354, the opening words of the chapter indicate that these pages are to be considered notes or summaries of lectures rather than a finished treatise. – In view of the lack of order one may doubt whether the present arrangement is by the hand of Aristotle himself. Ps. Alexander does not hesitate to write πάνυ τεταραγμένως καὶ φύρδην καὶ οὐ τεταγμένως οὐδ' ἀκολουθῶς ἐπάγει τὰ ἐν τῷ βιβλίῳ τούτῳ λεγόμενα (673, 34-5).

1069b35-1070a4. Matter itself does not come into being nor does form although both are intimately involved in the process of becoming. Aristotle proves his point by evoking his division of causes. He shows that in each type of causality the cause itself does not change. He omits to mention final causes, perhaps because in physical process final causality only works in and through the efficient cause. Aristotle does speak of the efficient cause, but does not pursue the argument so as to prove that there must be an unmoved First Mover. Here his main concern is to show that there are ultimate irreducible intrinsic principles, scil. matter and form.

οὐ γίγνεται οὔτε ἡ ὕλη οὔτε τὸ εἶδος. That matter itself does not come into being is also stated in *Phys.* 192a28 (ἄφθαρτος καὶ ἀγέννητος) and *Met.* 999b12. That form as such does not come into being is asserted in *Met.* 1033b17 and 1043b17 (What becomes is the concrete being). *Met.* 1044b22 adds that forms are and are not, without coming into being and ceasing to be.

²² Cf. *Phys.* 194b26: τὸ εἶδος καὶ τὸ παράδειγμα, τοῦτο δ' ἐστὶν ὁ λόγος ὁ τοῦ τι ἦν εἶναι.

λέγω δὲ τὰ ἔσχατα. Depending on the point of view from which one is examining the process of change ἔσχατα can mean the ultimate, i.e., most basic principles, primary matter and substantial form in their own nature, or the last factors, i.e., concrete matter (*materia secunda*) and concrete form. In this latter case the term ἔσχατα means 'proximate'. For some examples of this use see Bonitz, *Ind.* 289b55-290a2.

Ps. Alexander, 675, 3-6, explains ἔσχατα as meaning primary matter and substantial form, as for instance the form 'Socrates'. Schwegler and Bonitz follow him without further comment, but Ross, 354, saw a difficulty: if Alexander were right, he writes, ἔσχατα would mean at once most fundamental, primary, and 'proximate'.

For this reason Ross takes ἔσχατα to mean proximate matter and form; he points to 'roundness' and 'bronze' in 1070a3 as instances of proximate form and matter.

The close analogy of the example given in this passus with the contents of *Met.* Z 8 are a strong indication that this text must be understood against the background of Z 8 and that ἔσχατα in fact means 'proximate'. Aristotle would then be saying that he is not dealing now with the most fundamental principles, but with principles in accidental change (the production of a brazen sphere)¹.

πάν γὰρ μεταβάλλει τι. In order to describe material causality Aristotle frequently uses expressions like τὸ ἐξ οὗ γίγνεται τι ἐνυπάρχοντος (*Phys.* 194b24; 192a31-32; likewise in *Met.* Z 7-9 τὸ ἐξ οὗ denotes the material cause). Sometimes we find the expression ἐστὶ δὲ τι δὲ τοῦτο γίγνεται (190b13). Apparently we must take πᾶν γὰρ κτλ. in this sense (everything changes as a τί, i.e., everything that changes is something). As the example shows Aristotle is thinking here of a material like bronze which takes another form, and thus the statement applies not to primary but to proximate matter, and perhaps to size, shape and qualities more than to substantial form². This does not mean that the same does not hold true for primary matter and substantial form. Aristotle does not consider this because the discussion is limited to accidental change³.

ὑπὸ τίνος καὶ εἰς τι. The ὑπὸ τίνος indicates the efficient cause of

¹ For the concept of *materia prima* see 1015a8; 1015a23; 1049a24-27.

² εἶδος is sometimes used in the sense of quality. Cf. *Met.* 1010a23; *Meteor.* 357b28.

³ It is surprising to find an assertion that matter changes, immediately after the opening statement that matter does not come into being. It is not unlikely that this opening line was added by later editors.

change. Cf. *Phys.* 194b29-34 and *Met.* 983a30; 984a27. — εἰς τι signifies the form which is the terminus of the process of change. Cf. *Phys.* 224b1: πᾶσα γὰρ κίνησις ἐκ τίνος καὶ εἰς τι. See also 229a25. In *Met.* 1032a14 a different formulation is used, viz. πάντα δὲ τὰ γινόμενα ὑπὸ τε τίνος γίγνεται καὶ ἐκ τίνος καὶ τί⁴.

ὁ χαλκὸς γίγνεται στρογγύλος. The example of the brazen sphere is often used to illustrate Aristotle's theory of change; see *Met.* Z 8 (the brazen sphere comes into being, but not the brass nor the sphere).

ἀνάγκη δὴ στῆναι. A series of causes or a chain of arguments cannot be infinite, for if it were, no effect would be produced, no conclusion reached: ἀρ' οὖν τοῦτο ἀνάγκη στῆναι ἢ ἐνδέχεται εἰς ἄπειρον ἵεναι⁵. Aristotle uses this insight in his *Post. Analytics* I, 2, 3, 19 where he points out the need for indemonstrable first principles. — It also occurs in the *Physics*: place no longer has a place, else there would be no end to it (209a25). It helps him to formulate the solution of Zeno's paradoxes and the theory of the indivisible "now" of time. The principle is also used in the proof of the existence of a First Mover (256a17).

It is not unlikely that Aristotle formulated the principle that there cannot be regress to the infinite under the influence of contemporary mathematical thought, as, for instance, that of Hippocrates of Chios and of Leon. In Plato's dialogues we find statements to the effect that the process of arguing and diaeresis must come to an end (*Theaet.* 147c; *Phaedr.* 277b), and that there is a principle beyond which one cannot go (*Rep.* 510b: ἐπ' ἀρχὴν ἀνυπόθετον; 510b; 533c; 534c).

The infinite rejected by Aristotle is the indeterminate in space and time, endless analysis and an infinitely long chain of causes (*G.A.* 715b15), but not the infinite in power of being (see 1073a7ff.).

a4-9. In this section Aristotle points out another characteristic of becoming: both in nature and in art everything comes into being out of something that shares its name. — The purpose of this passus is to formulate a principle of causality: both natural things and artefacta are produced by something that has their form. In the text, however, the argument does not become very clear⁶.

ὅτι ἐκάστη ἐκ συνωνύμου γίγνεται οὐσία. According to Ross, *op. cit.*, 354, the expression refers not to material causality but to 'agency'. Yet when we study similar expressions in *G.A.* 721a3 and 735a21, we

⁴ In his *Index* 222b48 Bonitz considers this εἰς τί synonymous of τέλος; but there is only synonymy in as far as we consider the form as the end.

⁵ *Anal.* 81b32. Cf. *Met.* 1011a12.

⁶ Bonitz, 476, writes: et multum negligentiae concedendum est huic disputationi.

notice that they have a somewhat wider meaning, in which efficient causality is central, but material and formal causality are connoted. S. Thomas, *In Metaph. XII*, lect. 3 (2444), takes the purpose of the passus to be that of stating that there is a likeness between cause and effect, if not a specific likeness, at least a certain similarity.

τὰ γὰρ φύσει οὐσίαι καὶ τὰ ἄλλα. This line calls attention to the fact that not only natural substances, but also products of art, chance, and spontaneity are οὐσίαι. – Grammatically τὰ γὰρ φύσει and τὰ ἄλλα are the subject of the sentence, οὐσίαι the predicate.

Aristotle distinguishes between

(a) causality by nature. Nature is said to be a principle in the thing itself⁷. In generation the male parent gives a form to the offspring which is related and like to the form he has himself. Ross, 355, thinks that in the case of natural generation the principle is not appropriate, since the change is not in oneself, but in the offspring. – Yet if we take the principle in a wider sense, it may also be applied to generation: the process of generation begins in the male parent. It is his nature which in and through the semen lets the offspring develop. Apparently the causality envisaged is not only efficient causality but material and formal causality as well.

(b) art is called a principle which is not present in the thing which changes, but in the mind of the craftsman or artist. *Phys.* 199b26-32 adds to this that incidentally art may be in the subject that changes, as it is in the case of a doctor who heals himself.

(c) chance⁸ is the not intended production (or occurrence) of a result in the sphere of purposive activity (human activity and art)⁹.

(d) like chance spontaneity also is a kind of efficient causality. By spontaneity we mean the production of a not intended result by the activity of natural things¹⁰. For example, we speak of spontaneity

⁷ See for a similar formulation *Phys.* 254b16. In *De caelo* 268b14-16 a slightly different formula is used: nature is a principle of movement to things (αὐτοῖς). Here the immanence of nature as the specific form of a body is not yet clearly stated.

⁸ Sometimes Aristotle uses τύχη, sometimes ἀπὸ τύχης.

⁹ *Phys.* 197b1-2.

¹⁰ The event itself may have been in vain, but through an external concomitant cause (ἔξω τὸ αἴτιον, 197b20) it has nevertheless reached a purpose-like result. – See A. Torstrik, περὶ τύχης καὶ τοῦ αὐτόματου, in *Hermes* 9 (1875), 425-470. Aristotle sometimes gives the term ἀπὸ τοῦ αὐτόματου a wider sense and uses it indiscriminately with τύχη. Cf. H. Weiss, *Kausalität und Zufall in der Philosophie des Aristoteles*, 44ff.

when a riderless horse returns to its stable 'by itself' after a battle and is saved, although the animal did not intend to be saved.

Another example is the spontaneous generation of certain animals from putrifying liquids, which would be normally produced out of their like by a teleological process of nature. Cf. *Met.* 1032a30-32; 1034b4ff; *Phys.* 197b18-20.

The last two types of causality are said to be 'privations', since production by nature and by art are realized only in a defective form in the case of spontaneity and chance respectively.

This division into four types of causality is another proof of Aristotle's ability for conceptual analysis. However, he might not have reached these fine insights, if he could not have availed himself of some valuable suggestions made by Plato. In *Soph.* 265c Plato mentions two explanations of the origin of animals, plants and minerals, viz. one which considers divine craftsmanship the cause, and a second which ascribes their origin to a spontaneous cause which generates without intelligence¹¹. In *Laws* 889a-b a view is mentioned according to which nature and chance bring about the finest things, art the less valuable things. This is apparently a materialistic interpretation of nature which excludes soul and mind. For Plato himself reason, divine art (θεία τέχνη) must be added to φύσις. Soul is the cause of every change and motion¹².

Unlike Plato Aristotle, in his *Protrepticus*, ascribes a great role to nature which acts in view of a purpose. Nature resembles art, but it differs from art in that it is prior, for art is only imitation of nature; Aristotle furthermore asserts that nature 'possesses reason'¹³. Nature is said to possess reason, but this does not mean that it has itself any thinking activity¹⁴.

Aristotle illustrates the way in which nature is a cause by evoking

¹¹ Cf. Fr. Solmsen, "Nature as Craftsman in Greek Thought", in *Journal of the History of Ideas* 24 (1963), 485-487.

¹² *Laws* 896b. Cf. W. Theiler, *Zur Geschichte der teleologischen Naturbetrachtung bis auf Aristoteles*, Berlin 1965, 84-5. Theiler draws attention to *Laws* 896b and *Phys.* b12-13 texts which seem to contradict the one the other.

¹³ *Protrepticus* fr. 11 Ross (= Düring B 11-14); fr. 23 (Düring). It is questionable whether Aristotle's conception of nature in the *De philosophia* is the same as that in the *Protrepticus* and in the *Corpus*. E. Berti and M. Untersteiner affirm this, but J. Pépin, in *Revue des Etudes grecques*, 1964, 448ff. denies it on good grounds: in the *De philosophia* φύσις does not (yet) have the sense of principle of movement.

¹⁴ Cf. *E.E.* 1238a13-14, and Dirlmeier's commentary, 405.

the principle "man engenders man". The meaning of the principle is that that which produces something must be of the same nature as its effects¹⁵. In formulating this law of being and of generation Aristotle probably also wanted to emphasize the continuity and eternity of form and the fertility of nature over against the corruptibility of individual things¹⁶.

As early as ps. Alexander commentators noticed the apparent inappropriateness of this principle as an illustration of the view that nature is a principle of change in the thing itself. For this reason ps. Alexander suggests to connect it with line 5 (ἐκ συνωνύμου γίνεται, 675, 30-32); Schwegler advocates transposition to this place, 241, but Bonitz thinks that even this radical remedy does not yield a smooth text, 476. According to Ross, II, 355, Aristotle would have been careless in the use of the principle or a copyist might have brought the words into the text from b27. – On closer inspection, however, there does not seem to be any serious difficulty, provided the assertion that 'nature is a principle of change ἐν αὐτῷ' is understood as signifying a principle within the same specific nature, and not (only) within the same individual. If understood in this way, the statement does apply to generation, but not to the production of artefacta: When a man builds a house by his art, there is a likeness between the house and his design, but he himself is specifically different; hence there is no production by nature in this case.

a9-30. The main part of chapter three deals with material and formal causality. The question studied here by Aristotle is that of to what extent material and formal causes are οὐσίαι. Thus this section fits in with the general theme of *Met. A* – Its text is in certain lines obscure and somewhat corrupted. Throughout the passus ὅλη is used in the sense of *materia secunda*; hence it can be called an οὐσία.

οὐσίαι δὲ τρεῖς. οὐσία here has the sense of "beingness" or "subsisting thing". – Aristotle asserts that there are three ways of subsisting, viz. as matter, as 'nature' and as a concrete individual. The same assertion is found in *Met. 1038b2*. It is surprising that in chapter one, 1069a30, the identical terms οὐσίαι δὲ τρεῖς carry a different

¹⁵ *De anima* 415a26-b7; *Phys.* 198a26; *P.A.* 640a25; *Met.* 1032a25; 1034b2; 1092a16; *E.E.* 1222b15-18. Cf. K. Oehler, *Ein Mensch zeugt einen Menschen*, Frankfurt a.M. 1963, pp. 38ff.

¹⁶ In *Symp.* 208a-b Plato had already pointed out that generation is a divine activity since it allows perishable things to attain a certain measure of immortality.

meaning. This points to a method of composition in which existing short treatises were later brought together to form Book XII.

The text then continues ἡ μὲν ὅλη τόδε τι οὐσα τῷ φαίνεσθαι (ὅσα γὰρ ἀφ' ἧ καὶ μὴ συμφύσει, ὅλη καὶ ὑποκε(μενον)). One may perhaps explain the first part of this line by referring to *Met.* 1038b5 where the substratum of the accidents (the specific nature, the animal body) is said to be a τόδε τι, while primary matter is not a 'this'. However, the next words are difficult. Several explanations have been advanced:

(a) Alexander thinks Aristotle should have written: matter is substance in as far as it can be perceived through the form; or, he suggests, the words could mean that matter can be said to be being in as far as the senses (which cannot make a distinction between matter and form) grasp the concrete whole¹⁷.

(b) Ps. Alexander, 676, 20, takes τῷ φαίνεσθαι to mean 'by our imagination'.

(c) Averroes himself writes that existent matter is a being (esse materia est ens) because of the fact that it can be perceived by the senses¹⁸.

(d) St. Thomas takes the text to refer to the *materia secunda* and comments: "Materia, quantum ad id quod apparet, videtur esse substantia"¹⁹.

(e) Schwegler, 241, wants to bring the text in line with statements which say that matter is not a τόδε τι, as, for instance, *Met.* 1029a20-1 and 1042a27. For this reason he adds μὴ.

(f) Bonitz, 477, does not agree with Schwegler's correction and following ps. Alexander interprets: est τόδε τι imaginationi, quoniam potentiam habet τοῦ γίνεσθαι τόδε τι.

(g) a hitherto hardly noticed suggestion is to read φύεσθαι for φαίνεσθαι: matter has the capacity to become the individual²⁰.

(h) Ross, 356, following Alexander ap. Averroem, writes: matter is a 'this' in appearance: to outward appearance the material parts of the whole as they lie side by side look like an individual thing, but if the

¹⁷ Apud Averroem, *In Metaphysicam: Aristotelis opera cum Averrois commentariis*, Venetiis 1562, p. 300.

¹⁸ *Ibid.* 301.

¹⁹ *Op.cit.*, no. 2446.

²⁰ Dr. Goebel in *Jahresbericht über das Archigymnasium zu Soest* (1890-1891), p. 17.

organic unity is not there the appearance is deceptive. Cf. *Met.* 1040b5²¹

(i) In his edition of the text Jaeger suggests to correct the text as follows: ἡ μὲν ὕλη τῷ (δυνάμει) τόδε τι οὕσα φαίνεσθαι.

(j) I. Düring translates: "that which is only by contact, and not (by itself) an organic whole, is only a this in appearance"²².

These interpretations clearly fall into two groups: in the light of Aristotle's discussions in Book Z some assume that matter is only a 'this' in potency and that the text should be read (or corrected) so as to say this; other interpreters pay more attention to the term τῷ φαίνεσθαι and to the following line and think that concrete matter is meant.

Judging from the context it would seem that ὕλη has the meaning of materia secunda (bronze, wood, the elements, an organic body, etc.). If so, in what sense can we say it is an οὐσία? In themselves these things certainly are concrete substances, but here Aristotle is only interested in their relation to the thing which is made out of them (a bronze sphere, a house, a fully grown animal). They can be said to share in its subsistence and to contribute to it in as far as they are made into it or become it. Aristotle would normally express this by saying that matter is a τόδε τι δυνάμει, but he could also have written that τῷ γίγνεσθαι matter is the new thing. These terms are somewhat vague but they would serve the purpose of signifying at once two modalities of becoming, viz. 'becoming that from this' and 'this becoming that'²³.

However the text has τῷ φαίνεσθαι and if we change this word the following ὅσα γὰρ κτλ. is completely meaningless. – On the other hand, if we follow Ross or Düring (see above), we hardly do justice to the intention of the text which is to say that matter also is really something subsistent or is related to subsistence, and not only in appearance, unless we assume that Aristotle mentions a tripartition of beingness, but actually discards again the first member of this tripartition, viz. matter as being. In *Met.* Z H this transition from a tripartition to a bipartition does indeed occur. But in this context, it would be strange if Aristotle would only take into consideration the matter of artefacta.

²¹ G. Reale follows Ross (and Alexander), *Aristotele. La Metafisica*, Napoli 1968, II, 264. – A. Preiswerk observes that if matter is only a this by appearance, it does not have an inner relation to being. See his 'Das Einzelne bei Platon und Aristoteles', *Philologus, Suppl. Bd.* 32, Leipzig 1939, p. 125.

²² *Aristoteles*, 190.

²³ Cf. *Phys.* 190a21ff. Bonitz spoke already of 'a potentiality of becoming'. Goebel's suggestion (τῷ φύεσθαι) goes in the same direction.

Since both interpretations can advance equally good arguments, the solution seems to be a combination of both views.

I would, then, suggest the following reading: ἡ μὲν ὕλη τόδε τι <τῷ γίγνεσθαι>, τῷ φαίνεσθαι <δὲ> ὅσα γὰρ ἀφ' ἧ καὶ μὴ συμφύσει ὕλη καὶ ὑποκείμενον. The second part of the sentence would then say that a substrate which is no subsistent unity, e.g., a pile of stones, is not a real 'this', but only a 'this' in appearance²⁴.

γάρ is explanatory of what has just been said. The compressed form of the statement renders its understanding difficult.

ἡ δὲ φύσις τόδε τι καὶ ἔξις τις εἰς ἦν. The codices have the reading ἡ δὲ φύσις [καὶ (Ab)] τόδε τι εἰς ἦν καὶ ἔξις τις. Ps. Alexander in his paraphrase, 676, 30, Bonitz, 477, Ross 356 and Jaeger change the order of the words ("the Greek is intolerably harsh", Ross) to the above. If we adopt this transposition, the meaning of the sentence is: a second way in which a thing can be οὐσία or related to οὐσία is by being that towards which movement takes place. – The statement that 'nature' is a τόδε τι, in as far as it is the form towards which change takes place, seems to conflict with those texts in the *Corpus* where τόδε τι signifies the individual, in which the universal nature is singularised. Cf. *Cat.* 5²⁵. Yet this contradiction can be solved if we remember that for Aristotle the form is the perfection of a thing, the center and basis of its unity and being; in this sense, it can be said to possess substantiality even before the concrete whole. Cf. *Met.* 1037a29-30; 1029a5-7²⁶. For this reason the form may be called a τόδε τι and is prior to the composite being. A ἔξις is intimately connected with the formal nature of things. In the *Corpus* the term means 'having in possession', 'being in a certain state', and more in particular, 'the natural, permanent condition' of a thing, its posture and appearance as rooted in its nature or as resulting

²⁴ In a sense stones, grains of sand etc. are a 'this'. The text only denies that they are a 'this' in the new being which is made out of them. – Συμφύσει denotes the process of 'growing together', as well as its result, the continuity of one substance. Cf. *Phys.* 213a9-10; 227a23; *Met.* 1014b22. In the first sense the term is also used to signify an abnormal growth or adhesion. Cf. *Met.* 1040b15 and *G.A.* IV, 4 where the verb συμφύεσθαι occurs in this sense. For a parallel sentence stating the opposition between 'to be' and 'to appear' see *Meteor.* 370a12: ... τὴν ἀστραπὴν οὐκ εἶναι φασιν ἀλλὰ φαίνεσθαι.

²⁵ See J. A. Smith, 'Tóδε τι in Aristotle', in *Class. Review* 35 (1921), 19. – For texts in which τόδε τι is synonymous with οὐσία see Bonitz, *Index* 495b45; 544b37ff.

²⁶ See A. de Vos, "Het 'Eidos' als Eerste Substantie", in *Tijdschrift voor Filosofie*, 1942, 57-102, p. 67.

from its activity; it can also denote the formal nature itself²⁷; in a more restricted sense it means a quality or affection whose opposite is a privation. The term is frequently used in connection with τὰ πάθη, sometimes with εἶδος and even with φύσις, not however with τόδε τι. This use is unexpected in a context where Aristotle wants to emphasize that the form is also οὐσία, but it can be explained if we assume that Aristotle also had in mind accidental forms, like health or shape (1070a23) which cannot very well be called a τόδε τι. Even on this assumption the text is not fully satisfactory, and we must reckon with the possibility that the words καὶ ἕξ τις of the codices, at the place where they stand, are the result of a text corruption. It is tempting to read εἰς ἣν καὶ ἔκστασις: nature is a this in as far as the process of movement (from one contrary to another) is directed towards it. — Since ἔκστασις is seldom in the *Corpus* (cf. however *G.A.* 768a26, 27), corruption might easily have occurred. The particle καὶ stresses the fact that the relative clause brings the reason why and the restricted sense in which nature is a this²⁸.

A third way of beingness is that of the concrete whole consisting of form and matter. — A similar formula is found in 1029a3 (τρίτον δὲ τὸ ἐκ τούτων). While the text of *Met.* Z 3 illustrates this doctrine by means of examples drawn from artificial production, this passus seems to be concerned in the first place with generation.

ἐπὶ μὲν οὖν τινῶν κτλ. When Aristotle says that for certain things the 'this' does not exist apart from the composite being, he does not mean that the form can be separated from matter *in thought*, as he does in 1017b25 and 1042a29 (τῷ λόγῳ χωριστόν ἐστιν). Rather he is thinking here of the capacity to exist in separation of matter, as for instance nous, soul or the Platonic forms do exist separately.

ἐπὶ μὲν οὖν τινῶν is a concise way of saying "in predicating the 'this' of things, in the case of certain of them..."

εἰ μὴ ἡ τέχνη. Cf. *Met.* 1032a32-b2: "...from art proceed the things of which the form is in the soul of the artist. (By form I mean the

²⁷ Cf. *De anima* 417b: μεταβολὴν... ἐπὶ τὰς ἕξεις καὶ τὴν φύσιν. *G.A.* 726b21; *Met.* 1044b32: τοῦ μὲν καθ' ἕξιν καὶ κατὰ τὸ εἶδος ὅλην.

²⁸ A remote possibility is that the original had something like εἰς ἣν καὶ ἕξ τις τείνει (for a parallel construction see *E.N.* 1143a25), which would mean that the activity (of the qualities in the process of change, and of the artist in artificial production) tends towards the form of a thing. In the context, however, such an observation would be quite unexpected, and ἕξ τις could hardly have the sense of activity here.

essence of each thing and its primary substance)". In 1034a24 Aristotle states that art is the form, — a statement we also find in 1070b33.

οὐδ' ἔστι γένεσις καὶ φθορὰ τούτων κτλ. In Z 8 Aristotle explains that there is no generation or corruption of substantial form, but that it comes into being instantaneously. However, in the context the demonstrative τούτων clearly refers to artefacta alone; hence the text is saying that the forms of artefacta in as far as they exist in the mind of the craftsman come into being or pass away, according to whether the craftsman begins to think them or ceases to do so²⁹. The observation, irrelevant to the argument of the chapter, is parenthetical.

ἀλλ' εἴπερ, ἐπὶ τῶν φύσει. If there are forms which exist in separation, they are forms of things which are φύσει. The expression τὰ φύσει means those things (or their parts) which are existing in nature, independently of man's activity. The elements, heavenly bodies, animals and plants are φύσει (*Phys.* 192b9; *De caelo* 298a27, 307b; *Met.* 1015a6). Ross, 356, takes the expression to signify only living things. He probably does so because in the next line 'fire' is placed among the things which are not φύσει. However, as we shall see, there is no reason to give the terms a more restricted sense than they have elsewhere in the *Corpus*.

The reason why there might be ideas of things that are φύσει rather than of artefacta, obviously is that under changing conditions and in the endless cycle of becoming and perishing the same specific essence always persists.

At this juncture Aristotle does not say whether he thinks that there are ideas or not. Until here a platonizing philosopher could go along with Aristotle. Sometimes Aristotle is only aiming at a provisional certitude in his arguments (Bonitz: si omnino ideae esse censendae sunt...).

διὸ δὴ οὐ κακῶς Πλάτων (ἔφη) κτλ.³⁰

In his commentary on the *Metaphysics*, 79,19-80,6, Alexander, elaborating on *Met.* 991b6 ("many other things come into being (e.g. a house or ring) of which we say there are no Forms"), quotes a text from Aristotle's *De ideis* (= Ross, p. 122, 20ff.) according to which the

²⁹ Cf. ps. Alexander 677,2-12.

³⁰ Themistius 8,12 and Alexander ap. Averroem, (*Aristot. Opera cum comm.*, VIII, Venetiis 1562, 301 L.M.) have οἱ τὰ εἶδη τιθέμενοι instead of Πλάτων. R. Bluck argues that this reading should be adopted, 'Aristotle, Plato and Ideas of Artefacta', in *The Class. Review* LXI (1947) 75-76.

Platonists did not admit ideas of works of art, although "the arguments from the sciences" would lead to the admission of such ideas. To this one may add that in his dialogues Plato himself admitted ideas of artefacta like a bed, table, etc.³¹. Hence a problem arises which is further complicated by the definition of ideas given by Xenocrates, which excludes forms of artefacta: αἰτίαν παραδειγματικὴν τῶν κατὰ φύσιν δὲ συνεστώτων (fr. 30 H; Cousin 888, 17-19).

L. Robin and H. Cherniss assume that Aristotle misunderstood Plato, who would only have rejected ideas of those artefacta which are a mere imitation³². Cherniss argues that for Plato there was no opposition between nature and art: φύσις is the art of God. This position, however, was criticised by A. Mansion, who drew attention to texts like *Epist.* VII 342d where a clearcut distinction is made between nature and art³³.

In view of this it is perhaps better not to go all the way with Cherniss in his interpretation notwithstanding the fact that some of his remarks are particularly valuable, as, for instance, where he says that by φύσει are signified those objects which form a natural unity.

Our passus does in fact intimate that things which exist 'by nature' are neither an agglomeration of parts (like flesh) nor a form inherent to something else (fire) nor part of a substance³⁴. Only things 'by nature' (complete in themselves and subsisting by themselves) are οὐσία in the full sense of the term, and it is about οὐσία that our text is speaking. Aristotle elsewhere also said that in the (orthodox) theory of ideas there are only ideas of substances (τῶν οὐσιῶν) (*Met.* 990b22-27). In view of the evidence of certain texts of the *Corpus* it is perhaps

³¹ Cf. *Crat.* 389b-d; *Rep.* 596b-597a; *Laws* 965b-c; *Epist.* VII 342d. To the contrary *Met.* 999b19; 1066b28.

³² *Théorie plat. des idées et des nombres*, 174 n.: *Arist. Crit. Pl. Acad.*, 235 ff.

³³ 'La critique de la théorie des idées dans le *περί ιδεῶν* d'Aristote', *Revue philos. de Louvain* 47 (1949), 169-202, p. 180 n. 38.

³⁴ I follow the text of Jaeger in a19 (ἀλλ' οὐ). In this reading we may still place a full stop after τοῦτων and transpose οἷον... ἢ τελευταία to line 11, as Ross does. In this case τοῦτων would mean 'things which are not φύσει, i.e., artefacta. — The reason for this transposition would no longer be so pressing. Contrary to what Ross says, we can explain the words at the place where they are now: It is true that fire is the fourth of corporeal substances, yet it exists always in some other substance. Cf. *G.A.* 716b18ff.; Bourgey, *Observation et expérience chez Aristote*, 27. — On the 'head' as a member see *H.A.* 486a10 (it contains other parts within itself). — 'Flesh' as such is not a unity, but comprises several components. See *Tim.* 82c; *P.A.* 642a23 (In Empedocles' view flesh is the *logos* of the mixture of elements).

best to assume that Plato first postulated the existence of ideas for certain products of art, but that he restricted their number so as to admit only ideas of artefacta which consist of one material and have a certain natural unity, and are οὐσίαι. Some of his disciples who paid less attention to this last point, but insisted on the fact that ideas are the model of things, would have admitted ideas for all artefacta³⁵. It is against these disciples that Aristotle would mainly be arguing.

ἀλλ' οὐ τοῦτων κτλ. Bekker reads ἀλλὰ τοῦτων, a reading which is accepted by Bonitz and Tricot, but which does not make the interpretation of the words much easier. Tricot understands: "if there are ideas *separate* from things like fire and flesh", which would mean that there are ideas of fire and flesh. Bonitz' interpretation, 477, is more general: "if there are ideas which are different from things like fire and flesh"; according to Bonitz Aristotle would not explicitly say that there are ideas of flesh and fire. In this interpretation ἀλλὰ is superfluous, for everyone agrees that ideas are different from concrete things, unless we would press the term so that it gets the meaning that there is no community between ideas and concrete things. Some manuscripts have ἀλλά and that is also what Alexander ap. Averroem, *l.c.*, 301 L seems to have read (*sed ex istis ignis, caro, os, caput, omnia sunt materia*). The disadvantage of this reading is that the words ἅπαντα γὰρ ὅλη ἐστὶ become meaningless (Alexander drops γὰρ).

A much better solution was suggested by Christ, viz. to read ἀλλ' οὐ (after ἀλλοῦ in J). Cherniss³⁶, Jaeger and Gaiser³⁷ adopt this correction. Especially when one transposes with ps. Alexander, 677, 14 and Ross, II, 357 οἷον πῦρ... ἢ τελευταία to line a11, corruption of ἀλλ' οὐ can elegantly be explained: an editor or reader must have thought that a denial of ideas of flesh and fire conflicted with Plato's true theory.

ἅπαντα γὰρ ὅλη ἐστὶ, καὶ τῆς μάλιστα οὐσίας ἢ τελευταία. If we decline the (not unattractive) transposition of these words to a11 (for lack of a really compelling reason), we must interpret the terms in their context: because things like fire, flesh, head are matter, there is no idea of them.

³⁵ Albinus, *Didaskalikos*, ch. IX, intimates that there was a disagreement on this particular question within the Academy.

³⁶ *Op.cit.*, 250, n. 155.

³⁷ *Platons Ungeschriebene Lehre*, 543. — W. Theiler also rallied to it in his 'Die Entstehung der Metaphysik des Aristoteles', in *Museum Helveticum*, 1958, 85-105, p. 99.

As to the next words, lexicographically one could take *τελευταία* to mean 'the last mentioned' and interpret: "(they are matter in varying degrees) and the last matter we mentioned (*κεφαλή*) is the matter of what is οὐσία in the fullest sense. – This would imply that 'flesh' and 'fire' are the matter of a form which is not yet the subsistent thing itself. – In view of the difficulties of this position it is better to assume that *τελευταία* here means 'last' in the sense of 'particularized matter' as the substratum of the substantial form. Cf. expressions like ἡ τελευταία διαφορά (1038a19) and τὸ τελευταῖον τοῦ γένους εἶδος (1018b5). In *Z* 10, 1035b30 Aristotle uses the term τῆς ἐσχάτης ὕλης to signify the *materia proxima*. ἡ μάλιστα οὐσία denotes the individual. See ps. Alexander, 677, 24-26.

1070a21-30. Another question which must be examined is that of the relationship of cause and effect with regard to priority and simultaneity. – Bonitz, 478 and Ross 357 understand the text as saying that if formal causes are simultaneous with their effect, there is no reason to postulate preexistent eternal formal principles like the Platonic ideas; the forms do not come into being, but exist when the concrete individual has been engendered³⁸.

On closer inspection, however, the doctrine of the passus appears to be more complicated: τὰ μὲν οὖν κινουῦντα αἷτια do not only mean the causes of movement and process in the narrow sense of the term, but also efficient causality in as far as informed by the specific nature of the efficient cause and directed by purpose³⁹. In this sense a formal cause can be said to exist prior to its effect, but in as far as the form is a constituent of this individual it does not preexist. Therefore one can say that Plato's ideas, if they are not causes of generation, but the essence of the immanent form, are not preexistent. – Strictly speaking this conclusion in b26-30 is not wholly born out by the argument.

a24-26. There is yet another question to be examined: what becomes of the form when the concrete substance passes away? The answer is that part of soul, viz. *noûs*, may survive.

The problem had been mentioned in *Met.* H 3, 1043b18-21, but there the answer had been postponed.

In *De anima* 408b18-30 *noûs* is said to come to man as a substance

³⁸ Cf. *Met.* 1033b17-18.

³⁹ See E. Oggioni, *La 'Filosofia Prima' di Aristotele*, Milano 1939, 335-336. S. Thomas, in *XII Metaph.*, lect. 3 (2450), also understands by 'causae moventes' the principles of the production of the new thing.

(ἐγγίνεσθαι οὐσία τις οὐσα), to be impassive and to survive the human individual⁴⁰.

μή πᾶσα, ἀλλ' ὁ νοῦς, πᾶσαν γὰρ ἀδύνατον ἴσως. According to this there would be distinct parts in the soul: one part of it would be so intrinsically connected with matter as to be perishable, another part of it would be separable. To my knowledge the expression ἡ πᾶσα ψυχή does not occur in the *De anima* but ἡ ὅλη ψυχή does⁴¹, and the terms 'parts of the soul' (*μέρια, μέρη*) are frequently used. *De anima* 432a 22ff. intimates that Aristotle considered this way of speaking as provisional and felt that the meaning of the term 'parts' had to be examined in greater detail.

Certain texts of the *De anima* profess a doctrine similar to that of our passus. For instance, in 403a3-37 Aristotle investigates whether certain affections or attributes (*πάθη*) of the soul are peculiar to the soul itself and therefore not λόγοι ἐνυλοί. In *De anima* 408b13-29 he writes that certain affections start from the soul itself and he intimates that the soul or part of it is separable. In 430a13ff. the opposition of matter and agent is said to exist also within the soul; only the active intellect is separable⁴². However, the second and third Books of the *De anima* exhibit a doctrine which is more carefully formulated and better worked out than that of our passus.

F. Brentano believed that in these lines the soul in its entirety is implicitly assumed not to preexist; for when part of it is separable (i.e., not dependent on matter), this part cannot be produced by the process of natural generation, and must therefore be created and added to the embryo at some point in its development⁴³.

Brentano's interpretation is wrong: for Aristotle *noûs* is eternal; that which does not perish is not generated⁴⁴.

⁴⁰ This is confirmed by 430a17-18: καὶ οὗτος ὁ νοῦς χωριστὸς καὶ ἀπαθὴς καὶ ἀμιγῆς τῇ οὐσίᾳ ὧν ἐνέργεια. Cf. also *Met.* 1026a5.

⁴¹ See, for instance, 411a30.

⁴² One may also compare *G.A.* 736b15-25, esp. b21-25: ὅτι μὲν τοῖνον οὐχ οἶόν τε πάσας (all parts of the soul) προυπάρχειν, φανερόν ἐστιν... ὥστε καὶ θύραθεν εἰσεῖναι ἀδύνατον.

⁴³ *Offener Brief an Herrn Professor Dr. Eduard Zeller*, Leipzig 1883. This letter was an attack on Zeller's view of the eternity of mind, as stated in his *Über die Lehre des Aristoteles von der Ewigkeit des Geistes*, *Sitz.Ber. der Kgl. preuss. Akad. d. Wissensch. zu Berlin*, 1882, XLIX, p. 1033.

⁴⁴ Cf. *De anima* 430a23; *De caelo* 283a30. As Zeller points out, there is an intrinsic relation between the προυπάρχειν and θύραθεν εἰσεῖναι by which *G.A.* 736b15-25 describes *noûs*.

Jaeger believes on good grounds that lines a24-26 have been added later: they are not required by the context, deal with the question of *noûs* which is not touched upon in the chapter and their style is different from the plain matter-of-fact assertions of the rest of the chapter.

a26-30. Since one individual thing produces another there is no reason to postulate the existence of ideas: the specific form as present in the parent and the proper conception of the artefacta in the mind of the artist fully account for the origin of new things.

The terms *φανερὸν δὴ ἔτι καὶ*, which sum up the argument of the chapter are typically Aristotelian. For a close parallel see 1034a2ff.

In conclusion we may say that chapter three is a study of causality in general and more in particular of the causes in the process of becoming. It does not exhibit any strikingly new doctrine (except the parenthetical statement of a24-26), and summarizes in a concise form what is treated at full length in *Phys.* I and *Met.* Z.

CHAPTER FOUR

In this chapter Aristotle turns to the question of whether the causes and principles are the same or different for different things. The solution he proposes is that in one sense the principles are different (1070a35-b10), in another sense the same (b10-35) (viz., when the term principle is used universally and analogically). To appreciate the actuality and importance of the argument we must set it against the background of the Platonic theory of principles. For Plato the One is the principle, οὐσία and element of all things¹; it is his conviction that all things derive from a common ground and can be explained by the same principles². — That in this chapter Aristotle takes the Platonic theory of principles as a starting-point for the discussion may also be inferred from the repeated use of the terms ἡ οὐσία and τὰ πρὸς τι.

1070a31. The opening line of the chapter summarizes Aristotle's position. By *καθόλου λέγειν* is meant to use the terms 'causes' and 'principles' in a general sense abstracting from the type of causality and from the individual, specific and generic differences of their effects.

What Aristotle means by 'the analogous use' of the terms cause and principle is explained in 1070b17: viz. the terms are used analogically when they signify different genera of causality.

The discussion begins in a33. Aristotle now uses the pair *ἀρχαὶ καὶ στοιχεῖα* (and not *ἀρχαὶ καὶ αἰτίαι*) and this on purpose, for he first deals with *intrinsic* principles, in which Plato had been most interested³.

¹ *Met.* 1080b6. Cf. also 987b22 and 988b2; Alexander, *In Metaph.* 53, 2-11. — The question of the unity of causes and principles is also mentioned in *Met.* B 4, 999b24ff. In *Soph. El.* 172a14 Aristotle states that the different classes of being do not fall under the same principles.

² See for instance *Meno* 81d and K. Gaiser, "Platons Menon und die Akademie", *Archiv für Geschichte der Philosophie* 1964, 241-292.

³ In the *Corpus* the pair *ἀρχαὶ καὶ στοιχεῖα* is most frequently used when Aristotle is speaking of theories of Platonists and others. Cf. *Met.* 983b11; 989b30; 995b28; 998a22; 1059b23; 1081a15; 1087a21; 1091a31.

τῶν οὐσιῶν καὶ τῶν πρὸς τι. From the context it is obvious that τὰ πρὸς τι denote being which is not οὐσία (cf. a36, b3); the terms are used together with οὐσία to denote the division of reality, i.e., all classes of being. Hence they do not signify the relations of Aristotle's scheme of categories, but the Platonic *relativa* of the scheme of Hermodorus⁴.

If this is correct, the following words καὶ καθ' ἑκάστην δὴ τῶν κατηγοριῶν ὁμοίως are a later addition of someone who thought that τὰ πρὸς τι have the meaning of Aristotle's accidental category of relation.

a35-b3. The argument against the view that the different classes of being have common principles is based upon the fact that there cannot be anything apart from οὐσία and relation. Aristotle does not explain this here, but in *Met.* N 1, 1088b2-4 he is more explicit: "It is strange, then, or rather, impossible to make not-substance an element in and prior to substance, for all categories are posterior to substance" (Oxf. Transl.). This statement is one of the most important of the *Metaphysics*: οὐσία is a reality beyond which we cannot go, and upon which other beings depend. Οὐσία is that which exists by itself and in itself. Whatever can be predicated of things (in the order of existence), is consequent upon their οὐσία⁵.

The other categories, in so far as they are lacking this independent existence fall short of the perfection of being. "And all the other things are said to be because they are, some or them quantities of that which is in this primary sense, others qualities of it, others affections of it, and others some determination of it"⁶.

Plato had already asked the question concerning being (τὸ πρῶτον αἰεὶ ὄν, *Symp.* 211a). Yet Aristotle left Plato behind in that he assigned οὐσία in the full sense of the term to bodies⁷. And so he gave an answer to "the question which was raised of old and is always the subject of doubt, viz. what being is" (1028b2-4): being is οὐσία. To Plato things that are subject to change are not in the true sense of the word by themselves nor a 'this'⁸. Aristotle upgraded concrete being, but did not see that there must be a foundation for substance.

"Ἄτοπον indicates something paradoxical and absurd, but not necessarily an outright impossibility⁹.

⁴ Ap. Simpl., In *Phys.* 247,30 - 248,15. Cf. also the commentary on *Met.* 1069a20-21.

⁵ Cf. *Met.* 1038b27.

⁶ *Met.* 1028a18-20.

⁷ *Met.* Z 2. Cf. also 1038b9-10.

⁸ Cf. *Rep.* 485b.

⁹ *Met.* 1088b2; 1089a12.

παρὰ γὰρ τὴν οὐσίαν καὶ τᾶλλα τὰ κατηγορούμενα οὐδὲν ἔστι κοινόν. Κοινόν here denotes a form (essence) in which a plurality of things partake in such a way that this form is in each of them the same essence univocally, and not analogically¹⁰.

τὰ κατηγορούμενα. The term κατηγορούμενα is never used to indicate the first category¹¹.

The doctrine stated here is also proposed in *Phys.* 200b34 (*Met.* 1065b8): κοινόν δ' ἐπὶ τούτων οὐδὲν ἔστι λαβεῖν. Cf. also *Met.* 1024b15; *Anal. Post.* 83b15.

1070b3-9. Neither can it be argued that if there is no principle distinct from and beyond substance and relative being, substance (or relation) is the common principle of both: no element is the same as that which is composed of elements. BA cannot be the same as either A or B¹². - This statement is of the greatest importance: the concrete substance cannot consist of parts independently existing in it. Cf. 1039a3-5: "A substance cannot consist of substances present in it in complete reality; for things that are thus in complete reality two, are never in complete reality one." If substance would be present in relative being, it would have to cease being its own, so that relative being may be. If substance (as a constituent of the other categories) would remain substance, the other categories would turn into substance.

Bonitz, 479, thinks that with b4 ἔτι πῶς κτλ. Aristotle adds another argument. The terms seem indeed to indicate this, yet, as Bonitz himself concedes, the following lines simply contain the same argument as before. Since b4-5 seems to interrupt the new argument (which began in b3 with ἀλλὰ μὴν οὐδέ¹³), ἔτι πῶς κτλ. may be parenthetical or a gloss which crept into the text.

It is also possible that one step of the argument has to be supplemented: if substance would be a constituent element of relatives, this could be conceived of in two ways: (a) the relatives would be entirely the same as substance, and would cease to be a class of being; (b) the relatives would contain one element which is substance, a second which

¹⁰ *E.N.* 1096a28; b25; *Met.* 1026a27; 1041a4; 1058a4; *P.A.* 644a27.

¹¹ The term apparently never lost its sense of a predicate. See *Met.* 1028a13; H. Maier, *Die Syllogistik des Aristoteles* II, Tübingen 1896, 306 n.; L. M. de Rijk, *The Place of the Categories of Being in Aristotle's Philosophy*, Assen 1953, p. 91.

¹² Cf. *Theaet.* 203e and *Met.* 1041b12 ("the syllable is not its elements, ba is not the same as b and a, nor is flesh fire and earth").

¹³ On ἀλλὰ μὴν οὐδέ, as introducing an *a fortiori* argument, see J. D. Denniston, *Greek Particles*, 345.

is peculiar to their class. But in that case all things would no longer have the same elements, since the element peculiar to the relatives would be independent of substance. – It is possible that the sentence with ἔτι πῶς reflects this stage of the argument.

Lines b7-8 disturb the sequence of the argument. Moreover, what they purport to say has already been excluded implicitly in 1070b1-3: intelligible forms like the One and being cannot be elements. The reason given here is that they belong at once to incomposite and composite beings. – Hence, one might add, intelligible forms do not explain the very nature of things in their individuality. As *Met. Z* 13 says, these predicates signify not a 'this', but a 'such'¹⁴.

οὐδὲν ἄρ' ἔσται. The future tense here indicates the result of the argument and emphasizes the validity of the conclusion.

b9-10. The lines conclude that the principles are different for different things. ἀλλ' ἀναγκαῖον. I take this to mean that there *must* be 'principles': things cannot be without principles.

b10-16. Aristotle now says in what sense things have the same principles and in what sense not.

ἢ ὥσπερ λέγομεν. Bonitz, 480, recalls that the particle ἢ is sometimes used to introduce an objection which Aristotle makes against his own view as formulated in a preceding argument. He quotes as parallels 1029b29; *Top.* 125a23; 140b4, 12, 31; 144a11. – Aristotle notes that, in a certain sense, heat can be said to be a common form of all sensible bodies, cold a privation and that matter is common to them all.

In his *De gener. et corr.* Aristotle speaks *in extenso* about the role of heat in nature. In 318b17 heat is called a positive form (κατηγορία τις καὶ εἶδος); it does not exist separately, but is active in other things (324b19). All through the second Book of the *De gener. et corr.* Aristotle argues that a certain amount of heat (or its absence) in the substratum

¹⁴ As Ross observes, 359, the subject is a not expressed τι (τῶν νοητῶν τι). – It is better to read, with the manuscripts, τὸ ἐν ἢ τὸ ἐν and not to adopt the correction of ps. Alexander. The terms frequently occur in the order "the one and (or) being"; this use has an Academic tinge. Cf. *Met.* 998b21; 1001a20. – As we have seen above, the division into οὐσία and relatives evokes the Academic scheme of being.

Ps. Alexander (like E and J) reads στοιχείων (679,22ff.); This reading is also found in the Arab translations. Cf. R. Walzer, 'On the Arabic Versions of Books A, α and Λ of Aristotle's *Metaphysics*', in *Harvard Studies in Classical Philology* LXIII (1958), 217-231, p. 227. See also P. Thillet, 'Remarques et notes critiques sur les traductions arabes du livre A de la *Métaphysique* d'Aristote', in *Actes du Congrès de Lyon* (1958), Paris 1960, 114-124.

constitutes the four elements. When heat increases or decreases, the elements change from one into the other¹⁵.

In his works on biology Aristotle introduces a factor, τὸ καλούμενον θερμόν, related to the aether, and which is active in sperma (*G.A.* 736b30-731a1). This heat is not simply fire (plain fire cannot generate animals), but a vital heat analogous to aether (and present in the sun)¹⁶.

καθ' αὐτό, by its very nature matter is potentially the different elements¹⁷. This summary definition of matter combines certain points which are more explicitly stated in other definitions. For instance, matter is repeatedly called τὸ πρότον ὑποκείμενον ἐκάστω. There also are definitions which say that matter is καθ' αὐτήν no specific being and only potentially a 'this' (*Met.* 1029a20; 1042a27)¹⁸.

οὐσίαι δὲ ταῦτά, these things possess beingness (subsistence). By ταῦτά are meant the hot and the cold. It is not so surprising that Aristotle calls these qualities οὐσίαι for he conceived them as powers with an independent activity and connected to the substratum of the cosmos (in *G.C.* 330a30 he even calls them στοιχεῖα)¹⁹. τὰ ἐκ τούτων are the four elementary bodies which possess one of these basic qualities in a pure form, whereas substances like flesh or bone are characterised by a quality which is a mixture of hot and cold.

ἢ εἰ τι καλ. I take this line to describe a second way in which heat may be said to be a common principle, viz. it is a constituent of the animal body, for flesh and bone consist of a mixture of heat and cold. – This presence of the basic qualities in flesh is of particular importance to Aristotle: σάρξ is the organ of touch and so it must contain in itself the elements which it can sense. Cf. *De caelo* 302a21-23; *P.A.* 642a32; *Timaeus* 82c. The theory probably has its origin in the medical thinking of Alcmaeon of Croton. Cf. Aëtius V 30, 1 (*Dox. gr.* 442,3-443,4)²⁰.

¹⁵ In Plato's doctrine fire is the element which shares most in movement and is its visible expression. Since in his view the movement of the first heaven extended downwards as far as the centre of the universe (*Tim.* 58a-b; 78a), fire probably was assumed to be present in all parts of the cosmos.

¹⁶ Cf. F. Solmsen, 'The Vital Heat, the Inborn Pneuma and the Aether', in *Journ. of Hell. St.* 77 (1957), pp. 119-123.

¹⁷ Cf. ps. Alexander 680,21-23.

¹⁸ Düring, *Aristoteles*, 191, says that these terms show that Aristotle is still wrestling with his terminology. I would rather say that the clause summarizes certain aspects of matter expressed elsewhere more explicitly.

¹⁹ See F. Solmsen, *Aristotle's System of the Physical World*, pp. 110ff.

²⁰ On the function of 'flesh' and 'bone' in Aristotle's biology see the discussions of *P.A.* II 8.

ἕτερον γὰρ ἀνάγκη κατλ. For Aristotle coming to be and passing away are not due to association or dissociation: things change as a whole from a 'this' to a 'that'. A thing is not the sum total of its components but a new reality. Hence a composite thing like flesh constitutes a new type of οὐσία. – Apparently there is no reason to transpose this line to b9, as ps. Alexander does, 680, 27.

b16-22. Sensible bodies (τούτων) have the same elements (viz. the hot and the cold and matter), but we cannot say that all categories (substances, qualities, activity...) have identical principles: their principles (form, privation, matter) are the same by analogy²¹. This analogy is not that of the identity of relationship between four terms as, for instance, "sight:body = intellect:soul", but a general type of similarity in relationship, envisaged from the point of view of causality. Schematically the text can be illustrated as follows:

principles	sensible bodies	colour	space
form	warm	white	light
privation	cold	black	darkness
matter	what is potentially warm or cold	surface	air

Aristotle speaks of στοιχεῖα καὶ ἀρχαί, meaning the constituent principles. In b23 the terms 'elements' and 'principles' are said to be different, but in the lines we are now discussing no such distinction is made.

As in *Phys.* I 9 Aristotle here speaks of a triad of principles, envisaging only intrinsic principles of being (τὰ ἐνυπάρχοντα, b22). Even accidents which are subject to change, can be said to be constituted by three principles. To illustrate his view Aristotle quotes the example of colours which are a product of white and black. This doctrine also occurs in other parts of the *Corpus* (Cf. *Top.* 123b26; *Phys.* 188b24; 227b7); peculiar to our text is the fact that Aristotle adds as a third principle 'surface', perhaps in analogy to the triad 'heat-cold-matter' of 1070b12. Aristotle, in this context, seems to consider these qualities

²¹ Cf. *E.N.* 1096b28-29; *Poetica* 1457b16-25, and the fine essay on analogy by J. Vuillemin, in his *De la logique à la théologie*, Paris 1967, 13-21, p. 19. According to G.C. 335a32-33 the principles of eternal things and of perishable things (matter and form) are generically (τῷ γένει) the same. On the other hand, the term αἰτιον cannot be applied very well to the ἀθάτα (in the realm of eternal things there is no real dependence, *Phys.* 194b20-22).

as a concrete whole, i.e., he substantifies them. This does not necessarily have to be a primitive conception²²: it may be explained by the point of view which is adopted. A similar treatment is also found in the *De generatione et corruptione*, where qualities are even called στοιχεῖα. – Aristotle does not give an example of how to distinguish a triad of principles in the field of quantity²³. Elsewhere in the *Corpus* the theory that accidents have three principles does not occur.

b22-35. Besides these intrinsic causes there is the moving cause. In nature this moving cause is another individual of the same species, in art it is the form (or its contrary).

Since στοιχεῖον only signifies an intrinsic constituent, its meaning is more restricted than that of ἀρχή, a term which may also denote an external cause²⁴.

οἷον τὸ κινεῖν. οἷον here is exegetical, "namely". Cf. Bonitz, *In.* 502a7 ff. – αἰτία δ' ἄμφω, both intrinsic and extrinsic principles are causes. – The following words καὶ εἰς... ἡ ἀρχή are likely to be a gloss which crept into the text²⁵.

b24. τὸ δ' ὡς κινεῖν ἢ ἰστάν. The text is corrupt. The following ὥστε introduces the conclusion ("there are four causes"). It is best, then, to put a semi-colon after the last word preceding it. E and J have οὐσα, but this is not quite satisfactory. Alexander read οὐσία (after A b) and Bonitz suggests that αἰτία may have been dropped. Jaeger's correction is by far the most attractive. He adds οὐκ ἔστι στοιχεῖον, "now that which acts as a principle producing movement or rest is not an element, so that analogically speaking there are three elements, but four causes and principles".

It would seem that the κατ' ἀναλογίαν does not refer to the fact that the analogous principles are active in different genera (e.g. form and privation are active in living beings, and also in artefacta), but signifies that form, privation and matter are not in the same sense principles: the form is the principle *par excellence*, privation and matter are principles in as far as they are referred to form. – Aristotle adds ἰστάν,

²² According to I. Düring, *op.cit.*, 208, Aristotle's theory of accidents in this chapter would be very materialistic. – Some manuscripts and the Arabic versions (Walzer, *op.cit.*, 227) read the singular χρώματι in b20.

²³ One might perhaps think of a substratum, unit (limited length). Cf. for the Platonic theory of two such principles *Met.* 987b33. See also 1024a36-b4.

²⁴ Ps. Alex., 681.4: ἡ ἀρχή ὡς καθολικώτερον.

²⁵ On this division also see *Met.* 1013a19.

because the moving cause can also halt cosmic process. Cf. *G.C.* 336a32ff.

b25. Aristotle frequently states that there are four causes, (Cf. *Phys.* 195a15; b28; 198a22; 207b34; 209a20; *Anal.* 94a21; *G.A.* 715a4; *Met.* 983a26). What is peculiar to this chapter is that the final cause is not mentioned and that three intrinsic causes are enumerated. According to Düring the doctrine of the causes of this chapter would not yet be fully developed²⁶. This is possible, yet one may also explain the discrepancy by insisting on the different approach of this chapter: Aristotle is not analysing causality for the sake of causality, but conducts his study from the point of view of *οὐσία*. In nature, finality works in and through the efficient cause; moreover, the purpose to be attained is the form which is generated (1044b1)²⁷. Hence one cannot speak of the final cause as a distinct *οὐσία*. In *G.C.* II, 9, 335a26ff. something similar occurs: there are three principles said to be active in becoming (matter, form, moving, cause); finality is omitted, active factors are stressed. From the point of view of *οὐσία* Aristotle distinguished between three intrinsic principles.

1070b26. ἄλλο δ' ἐν ἄλλῳ applies in the first place to intrinsic principles; the following part of the sentence adds that the moving cause is also different for different things.

τὸ πρῶτον αἰτιον ὡς κινουῦν. In the context the moving cause, directly active in the process of change, is meant. In the last line of the chapter the absolutely First Mover is mentioned. Assuming that this line is authentic πρῶτον in b27 will have the sense of proximate, i.e., that which directly initiates the process of change so that there is no intermediate between the cause and the effect²⁸. Bonitz, 482, felt that it would be strange if in the same chapter τὸ πρῶτον κινουῦν would be used in two

■ *Op.cit.*, 208.

²⁷ Cf. also *G.C.* 335b6: ὡς δὲ τὸ οὐ ἔνεκεν ἢ μορφή καὶ τὸ εἶδος.

G.A. 715a4 also considers formal and final causes as almost identical. – It may seem surprising that Aristotle enumerates privation as one of the 4 principles. In *Phys.* I 7 and 8 he further explains in which sense privation can be said to be a principle. On the level of substantial change privation is a principle per accidens. In this case privation means the state of absence of the form and thus *per se* it is not. It is a pre-condition rather than a constituent principle of the new being. On the level of accidental change privation, while retaining its formal character (absence of the form), is in reality identical with the quality which is the contrary of the quality to be attained in change. In this case privation is active in the process.

²⁸ For this sense see *Phys.* 243a3-5.

different ways, and wonders whether Aristotle did not write τὸ ποιητικὸν αἰτιον. – Against this we may say that the expressions in b27 and b35 are far from being identical (Ross, 361). Moreover, I would suggest to translate πρῶτον in b27 not by 'proximate' but by 'first', in the sense of being the first among the four principles²⁹. The πρῶτον of b35 would then no longer conflict with this.

b30-34. In certain processes of causality, εἶδος and moving cause appear to coincide, so that in a sense there are only three causes. Likewise in *Phys.* 198a24 form, moving cause and end are said to coincide in many cases. Another reduction is mentioned in *Phys.* 190b35, where Aristotle asserts that in a sense the intrinsic principles can be said to be two (when privation is not considered, or is reduced to the substratum).

b31. With Zeller, Ross, Jaeger we must read ἀνθρώπων ἀνθρωπος. For man, man is the moving cause which is also the form. – Since the Greek is harsh Jaeger proposes to add τὸ ὁμοειδὲς οἶον after τοῖς φυσικοῖς. This makes the meaning of the sentence clearer, yet it is better to assume that only a simple ὡς or οἶον was dropped.

b31. ἐν δὲ τοῖς ἀπὸ διάνοιας τὸ εἶδος. With διάνοια here is not meant theoretical, but 'productive' thinking (*Met.* 1025b25): the form of the thing to be produced or of health to be brought about, exists in the mind of the artist. In as far as this thought is animated by the desire of attaining its end, it can be said 'to induce the creation of the artefactum'³⁰.

ὥδι δέ. For a parallel of this use of ὥδι see *Anal. Post.* 71a28; *P.A.* 649b22.

b33. Also elsewhere Aristotle says that the artist or physician must possess in their minds the form which they produce (cf. 1034a9-25). Our text, however, is unique in that to a certain extent it even identifies art and its product.

b34-35. Besides this particular kind of causality in which the efficient cause is also the formal and final cause, there is the causality of the First Mover of all things. – Aristotle apparently wants to inti-

²⁹ On the efficient cause as the first among the causes (in as far as movement starts from it), see *Phys.* 198a26; *Meteor.* 339a24.

³⁰ Cf. *E.N.* 1139a35-36; *De anima* 433a13-30.

mate that this causality is of a different class and to introduce the theme of the next chapter³¹.

It has been suggested that the lines are a later addition³². It is very hard either to prove or to disprove this.

CHAPTER FIVE

This chapter continues the argument of the preceding pages: in as far as affections and movements cannot exist without substances (and substances have the same principles), the principles of all things are the same. – Furthermore, actuality and potency are principles of all things so that the principles are (analogically) the same. – This is further elaborated. The last section of the chapter argues that universals cannot be causes: things of different kinds have specifically different, but analogically the same causes; individuals of the same species have causes which are numerically different.

The chapter presents a fully developed theory of potentiality and actuality, but it can hardly be considered a well composed treatise, consisting as it does of 4 loosely connected parts the first two of which are not more than short remarks: 1070b36 - 1071a2, a2-3, a3-a17, a17-b2.

1070b36-a2. In *Met. Z* 1 the reality of οὐσία is stressed, while this chapter lays stress on the property of existing 'apart', i.e., by itself (χωριστός)¹. Realities which are not 'separable', i.e., not subsistent, as, for instance, affections and movements, can only exist in substances so that the causes of substance are also their causes.

τὰ πάθη καὶ αἱ κινήσεις appear to signify the accidents. The term κινήσεις occurs in certain enumerations of the categories of being, and from a comparative study with other lists of the categories, Apelt concluded that the term signifies 'relatives' and 'action and passion'²:

¹ Χωριστός is used by Aristotle in the first place to signify the separateness of the (Platonic) ideas from concrete things. From this meaning is derived that of 'existing by itself' or what in Scholastic terminology is called subsistence. Hence concrete things are said to be χωριστός (*Met.* 1017b25; 1038b23-27; 1040b26-30; *passim* in the *De gener. et corr.*). Cf. E. de Strycker, 'La notion aristotélicienne de séparation dans son application aux Idées de Platon', *Autour d'Aristote*, 119-139.

² O. Apelt, 'Die Kategorienlehre des Aristoteles', in *Beiträge zur Geschichte der griechischen Philosophie*, Leipzig 1891, 150.

³¹ The movement of the sun in the elliptical plane is the cause of coming-to-be and passing-away. Yet the sun is not the absolutely first cause of movement here (notwithstanding the fact that in 1071a15 the text speaks of the function of the sun).

³² P. Aubenque, *Le problème de l'être*, 398.

under 'relatives' we must also understand 'contraries' (as in the Platonic division of being), for contraries show various grades of actualization, which may be expressed by the general term motion. – The *πάθη* may be synonymous with *κινήσεις* or, rather, have the general sense of 'attributes'. What is stated here in a general way is applied to movement in *De caelo* 279a15 and *Phys.* 200b32: there is no movement outside the physical universe or concrete things.

τῶν οὐσιῶν ἄνευ, postposition of *ἄνευ* is frequent with relative pronouns, seldom with nouns. In his *Poetics* 1458b31 Aristotle frowns upon anastrophe of prepositions like *ἀπό* and *περί* because it is a deviation from the ordinary way of speaking, yet, as Plato had done before him (*Apol.* 19c; *Phaedo* 65d; *Philebus* 49a), he occasionally makes use of it, probably for the sake of greater emphasis.

1071a2-3. In the preceding section Aristotle argued that there are four causes, or, in a sense, three. He added that the problem of causes is that of substances. He now writes that "these things" will probably be soul and body, or *noûs*, desire and body. – This remark seems without any connection with the rest of the chapter. Bonitz, 483, avows that "he does not understand at all its meaning". I would hesitatingly advance the following attempt at an explanation: in this chapter Aristotle is speaking of sensible things. In their realm the only subsistent things are bodies, and perhaps (*ἴσως*) soul, if we admit Plato's view of the composition of animals and man out of two subsistent parts³. An alternative view would be to assume that the only substances in the physical world are bodies, to which one might add *noûs* which is active, and intervenes from the outside. Furthermore, an intermediate factor is needed to explain the rise of activity and movement, and this is *ἡρεξίς*⁴. The future *ἔσται* would then denote that

³ The use of *ἴσως* does not necessarily imply that Aristotle himself is still uncertain with regard to this question. – F. Nuyens, *L'Évolution de la psychologie aristotélicienne*, 182, reads in this text the hylomorphic theory of soul and body and concludes that the chapter is late. However, the sentence rather suggests a different view of the composition of man out of body and soul. One might also take the clause to refer to a different problem, viz. that of whether in the physical universe soul exists apart from bodies or not. While Plato would affirm this, Aristotle seems to have held – at least for some time – the contrary opinion, as one may conclude from certain sections of the *De caelo*. Cf. also *Met.* 1026a27; *G.A.* 736b30. For Theophrastus soul is a reality intimately connected with the physical world. See *Met.* 6b2-5; Proclus, *In Tim.* II, 122,16 (Diehl).

⁴ On the place of *ἡρεξίς* in Aristotle's philosophy see the Introduction IV.

the statement is not admitted by everybody, or is still to be proved⁵. The latter part of the line would also serve the purpose of indicating the transcendental causes of the present order in the world. Plato assigns to the world-soul the task to communicate movement and order, and to connect the shadowy *μὴ ὄν* with eternal being⁶. – Aristotle transposes this view into a theory of *noûs* and *ἡρεξίς*. On this assumption *σῶμα* is the three dimensional reality of the material world, which was for ever and is the material principle of all things.

Ross advances a different explanation: Aristotle would be speaking of living beings, which alone are substances in the strict sense of the term (1040b5-10; 1043b21-23), and of man. – Against this the argument arises that the restriction to living beings is unexpected and hardly supported by the context. Moreover, if this explanation were right, one would expect to find the triad *ἀλσθησις νοῦς ἡρεξίς* in the last part of the sentence.

1071a3-17. Resorting to the doctrine of potency and actuality Aristotle establishes yet another sense in which all things may be said to have the same principles, viz. in as far as these are potentiality and actuality. – What this means is not clear at first sight. From what follows it would seem that at this place Aristotle does not refer to the theory of form and matter in general, but to the fact that the elements are present in all mixed bodies, and can be said to be things in potentiality or in actuality (cf. a13-14).

ἀλλὰ καὶ ταῦτα κτλ. This line explains the *τῷ ἀνάλογον*. *ἀλλά* expresses opposition with *αἱ αὐτά*. – *Ταῦτα* are the elements. In a concise sentence Aristotle says: (a) that potentiality and actuality are different in the different genera (e.g. the 'matter' of a house is different from that of an animal; the matter of affections from that of substance) and (b) that they may occur in the same thing in different grades of actualization⁷. The latter point is further explained in the lines beginning with *ἐν* *ἐνίοις*: elements like earth, water and heat are potentially wine⁸, but may become wine in actuality. Likewise, the elements are the animal

⁵ Cf. Kühner-Gerth I 172-173.

⁶ Cf. E. Hoffmann, 'Platons Lehre von der Weltseele', in *Drei Schriften zur griechischen Philosophie*, Heidelberg 1964, 20-22.

⁷ Since Aristotle affirms two characteristics of potency and actuality as principles the particle *τε* is corresponsive with the following *καί*.

⁸ See *Meteor.* IV 10.

body in potentiality, but can become so actually⁹. – The particle μέν indicates that there is yet another way in which the elements may constitute a thing (1071a11).

a7-11. πίπτει δὲ καὶ ταῦτα κτλ. By means of these lines Aristotle intends to explain that also actuality and potentiality as general principles are the above mentioned principles: form, privation and matter¹⁰.

This text has given rise to considerable difficulties. All commentators see in it a statement to the effect that form, privation and matter can be reduced to potentiality and actuality and, hence, wrestle with the difficulty whether privation should be reduced to actuality or to potentiality¹¹. Ps. Alexander, 682,34, connects privation with matter, Trendelenburg with the preceding ἐνεργεία¹²; Schwegler, 248, thinks that the grammatical construction favours Trendelenburg's interpretation, but he himself suggests that privation may refer to both potentiality and actuality. Bonitz, 484, firmly maintains that privation must be brought under the heading of actuality; Ross, 363, proposes to correct the text and to read στερήσις τε, but he concedes that even so the examples are rather peculiar¹³.

In order to solve these difficulties it is essential to keep in mind that in the passus there is no question of a reduction to actuality and potentiality, but of a reduction of 'to be in actuality' and 'to be in

⁹ On 'flesh' as a μεικτόν see *De anima* 423a13-15; *G.C.* 321b19-23 and *Tim.* 82c. – Jaeger wonders whether the original text did not have something like 'wine is potentially vinager, flesh man'. On closer inspection this is not likely, for the text speaks of the same thing – which is potentially something, but may also become so in actuality. – This description agrees very well with the theory which holds that the elements remain present in a mixture (which is mentioned later); Aristotle adds the example 'man' because in man, more than in wine or flesh, the elements are superseded by the form 'man'. See a14: καὶ τὸ ἴδιον εἶδος. This is also what ps. Alexander intimates, 682,29 (ἡ γὰρ ὑγρότης κτλ.).

¹⁰ For this use of πίπτειν one may compare 1005a2, 1013b17, *Phys.* 195a15.

¹¹ Most scholars, if not all, take ἐὰν ἢ χωριστόν to refer to subsistent forms (see our comment on 1071a17), and τὸ ἐξ ἀμφοῖν to signify the concrete whole (cf. τὸ συνάμφω in 1043a22), but ps. Alexander, 683,1, and Averroes, *op.cit.*, 310 L, understand χωριστόν as signifying 'abstracted'.

¹² *Geschichte der Kateg. Lehre*, p. 114, 191.

¹³ Confusion of δέ and τε does occur in the manuscripts. Cf. *E.N.* 1153b7. – In his paraphrases of the text Themistius does not mention privation at all, but takes 'darkness' to be an illustration of the case of a subject from which the form (light) was separated, and disease as an example of being composed of both form and matter (12,11).

potentiality' to form, privation and matter. Cf. Ps. Alexander 682,33. On this assumption the passus says: things which are actuality, are form (may be reduced to form) – in the case of subsistent things –; a thing which contains both actuality and potentiality is privation, – for instance, darkness and disease; that which is in potentiality is matter, for it can become both form and privation.

The two examples used to illustrate what privation is are darkness and disease. In *De anima* 418b7ff. Aristotle says that certain physical bodies, like water or air, have the property of transparency: when something fiery is present in the transparent, it becomes light, when not, it is dark. – Ancient medicine considers disease not as a state caused by micro-organisms, but as an excess of one of the humours (or elements) in the body coupled with a deficiency of the others¹⁴. Thus it is a perfect illustration of the fact that privation is composed of both something actual and potential.

In this interpretation no comma should be read after τὸ ἐξ ἀμφοῖν, and the δέ becomes superfluous. This is in fact how the Latin version of the second translation used by Averroes, reads the text: et quod est ex utroque est privatio, ut obscuritas aut infirmus¹⁵.

1071a11-17. The general sense of this passus is that actuality and potentiality are principles in a different sense in the case of things which do not have matter in common. – But the interpretation of its individual parts is very difficult.

Following Trendelenburg Bonitz, 485, reads ἄλλως ἢ ἐνεργεία κτλ. Bonitz feels that this change of the text is required by the fact that the external efficient cause of which the passus speaks is wholly different from actuality and potentiality enumerated above; hence Aristotle would introduce a new type of causality. To this interpretation Ross, 363, rightly objects that there is an obvious correspondence between ἄλλως in line a 6 and here. Moreover, it is precisely the intention of Aristotle to show that the various types of causality, have a common

¹⁴ Plato reduced the types of diseases to cases of predominance of one element (see *Tim.* 85a). He did not take into account another medical theory which is expressed in the treatise *περὶ φύσιος ἀνθρώπου*, according to which the humours are the causes of disease and health (see Taylor, *comm.* p. 608, and W. H. S. Jones in the Loeb Edition of the *Hippocratic Treatises* I, 48-49). – Aristotle uses κάμνον, a noun which is not found elsewhere, derived from the participle of κάμνω 'being sick'.

¹⁵ *Op.cit.*, 310 H. The first translation makes a full stop after 'ex ambobus' and continues: Privatio etiam...

aspect in as far as 'to be in actuality and to be in potency' are found in them. Therefore, the manuscripts' reading should be maintained.

The mistake of combining the following relative clauses and reading οὔτε... οὔτε must be avoided¹⁶. Ross, drawing attention to the fact that the negative in the first clause is μή, in the second οὐκ, suggests that the first clause gives the essential nature of a class, while the second states an accidental fact. We can agree with this in as far as it means that the first sentence with ὧν is a conditional relative clause (of which the antecedent is indefinite). It states the general condition under which actuality and potentiality are principles in different ways. This condition is that these causes do not have the same matter¹⁷. In the following line Aristotle mentions the elements fire and earth which are causes of man 'as matter'¹⁸. In this text 'matter' is more than *materia prima*, it is the concrete matter of the things belonging to a certain species of being. This matter is a set of attributes: each species of being has its own peculiar matter¹⁹. If this explanation is correct, the text would say that the elements are active in different ways in the composite being in which they are present. The second relative clause ὧν οὐκ ἔστι τὸ αὐτὸ εἶδος serves to clarify the first: of these things the form is also different. This relative clause is, therefore, equivalent to a coordinate clause with the mood and negative of a simple sentence. Since all things which have a different matter are also specifically different, Ross' correction (ὧν ἐνίων) is superfluous.

ὥσπερ ἀνθρώπου αἷτιον κτλ. This line illustrates the principle announced in a11-13. Apparently the examples concern intrinsic causes and factors, because external causes are dealt with in the next clause καὶ ἔτι τι ἄλλο ἔξω. There is a difficulty in τὸ ἴδιον εἶδος, for it would seem that the 'peculiar form' is always active in the same way, – and the ἄλλως δέ does not apply to it. Moreover, it is strange that the elements and the specific form are considered together. Another ob-

■ Bonitz voices doubt about the authenticity of these relative clauses.

¹⁷ Ross, 364, seems to think that Aristotle requires that the matter of the causes is not the same as that of their effects. However, there is no question of effects: causes are said to be different (in actuality or potentiality), – hence different the one from the other.

¹⁸ Fire and earth, being the extremes of the elements, also represent the intermediate air and water.

■ The *De caelo* IV 4 and 5 speak of 'four matters' (elements) (312a30). In *Met.* X 9 ὅλη does have this sense of element, but cf. also *De anima* 430a10 and *Phys.* 194b9 where matter and form are said to be relative to each other: each different species has a different matter.

jection against the text is that in Aristotle's theory of generation the form is produced by the efficient cause, whose causality is always determined in view of a particular effect (*Phys.* 202a9-12).

Codex E (*Parisinus graecus* 1853, s. X) reads τὸ αἰθριον εἶδος²⁰ and this reading points to the solution, viz. Aristotle is likely to be speaking here of the inborn pneuma. In the generation of animals Aristotle postulated besides the four elements a new factor, the inborn pneuma, which is analogous to the eternal aether. The reason why he introduced this factor is, as Solmsen writes, to counterbalance materialism and to give the soul a suitable instrument for its activity²¹. This inborn pneuma is active in the seed, which contains the form and imposes it upon the matter provided by the female²². In a short, but significant section of the *De generatione animalium* Aristotle sets forth that this special substance is different from the four elements, and varies with the value and dignity of the soul of which it is an instrument²³. These texts do not identify this pneuma with the form of the animal to be produced: rather this pneuma is heat and animates the lower and higher functions. Aristotle even says that it is related to the aether, i.e., it shares in eternity and is a principle of movement: without changing itself (μὴ ἀλλοιῶσαι) it moves being moved (κινεῖ κινούμενον) by the soul²⁴.

In view of the above there can be little doubt that τὸ αἰθριον εἶδος signifies this special σῶμα or φύσις which, together with the elements, goes into the making of an animal, the more so since Aristotle explicitly says that (a) it is active, while the elements are like matter; (b) it varies with the dignity of soul. – Now both conditions are also requested by the context (viz. the ἄλλως and opposition with πῦρ καὶ γῆ ὡς ὕλη).

In the *Eudemus* 46 R Aristotle calls soul a certain εἶδος, or something akin to εἶδος, by which he may have wanted to stress its immateriality and immutability. If this is kept in mind, it is not unlikely that the φύσις which being akin to aether, is the instrument of soul and which does not change, was also called an εἶδος. Further corroboration is given by the *De caelo* 312a12, where the containing body is said to have the nature of form.

²⁰ Ross does not mention this variant.

²¹ 'The Vital Heat, the Inborn Pneuma, and the Aether', in *J.H.St.*, 1957, 119-123, p. 122.

²² *G.A.* 729a10.

²³ *G.A.* 736b30 - 737a1.

■ *M.A.* 10. – 736b37 speaks of ἡ ἐν πνεύματι φύσις. It would seem that this means that this pneuma is not simply air, but has a special nature.

It is possible that the original text had τὸ ἀίδιον σῶμα which was unintelligible and for which εἶδος was substituted (under influence of ὡς ὅλη).

In view of the above explanation a comma should be printed after ὡς ὅλη.

a15. καὶ ἔτι τι κατλ. in these lines the external causes of generation are mentioned. Trendelenburg, *op. cit.*, 193, and Bonitz, 485, insist on the fact that this passus on external causes, in particular the sun, does not have any relation with a11-12 where Aristotle distinguishes between actuality and potentiality²⁵. For this reason, as we have seen, they proposed to change the text in a11. This correction is to be rejected because the ἄλλως is borne out by lines 12-14. It seems better to consider καὶ ἔτι τι ἄλλο κατλ. (a) a gloss which was appended to the text in order to remind the student that besides these intrinsic causes of man, there are external causes²⁶; or (b) as taking up what was announced at the beginning of the chapter, viz. that the principles of things are the same, – *in casu* the sun is the same efficient cause active in every process of generation. – Against this one might object that the parent is different for each animal species, and that thus the line contradicts itself.

a17-24. Although universals do not exist, some causes can be stated universally. Yet things in different kinds have different causes and different individuals have numerically different causes.

In this section Aristotle introduces a distinction which Plato failed to make, viz. between causes καθόλου and individual causes. One may speak of the cause of 'man' in general, yet the human individual always has an individual cause²⁷. The topic here discussed is related to the question of whether things have the same causes.

τὰ μὲν, scil. αἴτια. Καθόλου εἰπεῖν, to be stated as a universal, i.e., abstracting from the individual being in which this causality is incorporated. Ps. Alexander gives as an example 'the artist in general is

²⁵ One may even say that there is a contradiction between the first and last parts of the section: the parent is of the same species as his offspring, while a12-13 indicate that we are dealing with things which are specifically different.

²⁶ The doctrinal contents of these last lines agree with what Aristotle writes elsewhere in the *Corpus*. Cf. *Phys.* 194b13; *G.A.* 737a3. The most detailed discussion of the role of the sun, moving along the ecliptic, in generation is found in *G.C.* II, 10. See the commentary on 1072a10-12. Some manuscripts have εἰ instead of ἔτι, but the Arabic versions read ἔτι (Walzer, *op.cit.*, 226).

²⁷ On this distinction see *De interpr.* 17a38.

the cause of the statue in general', 684,9; – Ross adopts this interpretation, which makes the Greek say that causes of universals may be stated universally, causes of particular things cannot. – However, the Greek text suggests a division of the causes into two classes. Hence it is better to understand the sentence as saying that certain causes are sometimes stated universally (viz. matter and form), but that the efficient cause is not stated universally, – for it is that from which movement proceeds. Aristotle criticizes the expression 'cause of ideas or universal forms', but he does insist on the importance of the universal causal aspect which we may infer from the observation of a particular phenomenon. E.g., observing an eclipse we may state its cause universally. See *Anal. Post* 87b39-88a2.

πάντων δὴ πρῶται ἀρχαὶ κατλ. Although formal and material principles can be stated universally, ultimately there must be an individual form and matter, which were the origin of the species. – Hence this clause further restricts the sense in which certain causes can be stated universally²⁸. – τὸ ἐνεργεῖα πρῶτον τοδί, 'the this which is first actually', probably, 'the first actually existent individual of a species', which is not only the first efficient cause, but also the first formal cause²⁹.

καὶ ἄλλο δὲ δυνάμει. Concrete matter is needed in which and out of which the new individual can be produced³⁰. – *Met.* 1049b24 states this doctrine of causality as follows: αἰεὶ ἐκ τοῦ δυνάμει ὄντος γίγνεται τὸ ἐνεργεῖα δὲ ὑπὸ ἐνεργείᾳ ὄντος.

ἐκεῖνα μὲν οὖν τὰ καθόλου οὐκ ἔστιν, these universal causes, of which we spoke, do not exist. – The statement is strange because things which do not exist cannot be called causes. The universal form is active only in as far as it is particularised in an individual.

The statement is the more surprising, since in a17 there was no question of universals, but of stating universally. Hence the words are almost certainly a gloss, and in the mind of the compiler ἐκεῖνα may have had the connotation of 'those famous universals of the Platonists'.

ἀρχὴ γὰρ τὸ καθ' ἑκάστον τῶν καθ' ἑκάστον. This statement further explains a18-19. – The following words ἀνθρώπος κατλ. are difficult.

²⁸ Christ's transposition of a18 is unwarranted.

²⁹ The eternal forms as causes of the classes of things are herewith rejected. The text cannot denote the supreme moving cause because the plural ἀρχαὶ is used.

³⁰ The term ἄλλο evokes the τὸ ἄλλο used by some Pythagoreans and Platonists to denote the principle opposite to the One (*Met.* 1087b26). In fr. 2 Ross of *De Architaes philosophia* (Ross 207) ἄλλο without article is used to designate matter (... Πυθαγόραν ἄλλο τὴν ὅλην καλεῖν ὡς ῥευστήν καὶ αἰεὶ ἄλλο γιγνόμενον).

According to the manuscripts' reading the text would say that by engendering a man one also engenders man's essence (which may be conceived as a universal). It is, as Schwegler noticed, 250, surprising that this statement follows the principle that the individual thing produces an individual thing. The impression that something is wrong with the text is strengthened by the following ἀλλὰ Πηλεὺς Ἀχιλλέως. These words lead us to expect something like "the individual is not the cause of a universal, but of an individual". These difficulties could be solved by changing ἀλλ' οὐκ ἔστιν οὐδεὶς τοῦ ἀρχῆς οὐκ ἔστιν οὐδεὶς and by reading the comma after ἀνθρώπου³¹.

ὅλως δὲ τὸ Β τοῦ ἀπλῶς ΒΑ. In the case of syllables a letter taken generally is the cause of the syllable in general. The ἀπλῶς denotes that not accidental qualifications but the essence is considered; ὅλως points to the universal behind the particular.

a24. ἔπειτα (εἰ δὴ) (εἰδὴ) τὰ τῶν οὐσιῶν κτλ. This line is one of the most difficult of the entire book. A first group of commentators following some manuscripts and ps. Alexander read εἰδὴ or τὰ εἰδὴ after ἔπειτα³². They place a full stop *before* ἀλλὰ δὲ ἄλλων. Ps. Alexander and Schwegler insert ἀρχαὶ εἰσιν after οὐσιῶν (or αἰτιά ἐστιν, ps. Alexander, 684,19), but in the context this reading is utterly improbable. Much better is Bonitz' proposal to understand ὁρᾶν δεῖ (cf. a29: τὸ δὲ ζητεῖν), which yields the sense: we must be aware of the (different) species of things: other species have other principles. ... Bonitz' interpretation gives a good sense, but from the point of view of grammar the sentence remains harsh, and the ellipsis of ὁρᾶν δεῖ is difficult.

A second group of commentators read εἰ δὴ and supplement "the causes of all things": "if the causes of substances are the causes of all things, yet different things have different causes and elements"³³. Although this reconstruction is not impossible, the ellipsis of 'the causes of all things' is difficult; it is also harsh to start the apodosis with ἀλλὰ δὲ – Jaeger returns to E J and Van Moerbeke's reading ἥδη (for εἰδὴ pointing out that ἥδη may introduce a new step in an argu-

³¹ Cf. *Met.* 1070a8, where man is said to be a principle of man. For a similar expression cf. 1092a16. In the *De gen. animalium* the parents are repeatedly called the ἀρχή of their off-spring.

³² Schwegler, 250, Bonitz, L. Robin (in *Archiv für Geschichte der Philosophie* XXIII (1910), 184-210, p. 197), Christ (τὰ εἰδὴ). According to Walzer, *op.cit.*, 227, the Arabic versions understood τὰ εἰδὴ.

³³ E. Rolfes (*Aristotelische Metaphysik übersetzt*, (2 Bde) Leipzig 1904) was the first to propose this reading, which was subsequently adopted by Ross and Tricot.

ment)³⁴. He does not further explain how he understands the text, but seems to assume the following meaning: 'Furthermore, as we have seen, the causes and elements of essences are other for other classes of things'.

The attempts at an explanation all assume some sort of an ellipsis (or, a transposition of the text). Judging from the context, especially bearing in mind a26 πλὴν τῷ ἀνάλογον, it would seem that what is omitted must be οὐ ταῦτά: the principles of substances, that is of things which do not belong to the same genus, are not the same, except in an analogous way.

This οὐ ταῦτά probably stood at the very beginning of the sentence, viz. ἐπεὶ οὐ ταῦτά τὰ τῶν οὐσιῶν and the apodosis would come in a27 (καὶ τῶν κτλ.) which then introduces an assertion which goes beyond the preceding thesis. First the οὐ was dropped because it was felt to conflict with 1070a31, then a marginal note (ἀλλὰ δὲ ἄλλων), added to warn that the ταῦτά does not mean absolute identity, crept into the text, which then was further changed into ἔπειτα ἥδη.

It is also possible that the original protasis began with ἔπειτα εἰ δὴ and that οὐ ταῦτα came after τῶν μὴ ἐν ταύτῳ γένει³⁵. After the clause had become unintelligible, it was replaced by the terms χρωμάτων ψόφων οὐσιῶν ποσότητος. – The latter terms cannot have been part of the original text, because they invite us to understand τῶν μὴ ἐν ταύτῳ γένει as bearing on the different categories (and not on different genera of substances); if so οὐσιῶν in a23 would have this meaning of the various essences of the categories. Such a shift in meaning would be unlikely, – hence the enumeration of a26, which moreover is careless and hapzard, is very likely a gloss. – This conclusion is confirmed by a29-33. See below.

a27. τῶν καθ' ἑκάστον ἄλλο. We must understand ἄλλο ἄλλου. In 1069b25 a similar ellipsis occurred in the case of ἐτέραν.

I take the clause beginning with καὶ τῶν κτλ. to be the apodosis of a24-27. Aristotle adds that also the causes and elements of individuals are different, not specifically but *in concreto*: the constituent form and matter of an individual as well as its efficient cause are peculiar to it.

ἡ τε σὴ ὅλη, the concrete matter of the individual. – In examples Aristotle repeatedly uses the second person. Apparently this is a

³⁴ For an example see *Theaet.* 159b. – Yet ἔπειτα ἥδη is strange.

³⁵ Also on this assumption ἀλλὰ δὲ ἄλλων is a gloss.

reflection of the way of speaking used in the School (cf. *Met.* 1029b14; 1039a34; *De caelo* 280b29, etc.).

καὶ τὸ εἶδος. In a28 εἶδει means the specific essence, conceived as a universal, but in this line the meaning shifts to that of the individual form. In the biological treatises εἶδος is often used in the sense of the concrete thing in as far as this has a certain shape and characteristics. The term came to connote the subsistence of the individual thing³⁶. To Aristotle this meaning of εἶδος as the factor of the subsistence became so important that he even called individuals τὰ ἔσχατα εἶδη³⁷.

The passus does *not* deal with the question of which is the cause of the individual differences (i.e., the principle of individuation), as some commentators mistakenly thought³⁸: it only indicates that the forms of individual things are different, (while there is a specific community), without stating the causes of this difference.

a30-33. Another question to be examined is that of whether the principles of substances and accidents are the same³⁹. This question was of great importance to the members of the Academy, who reduced all things (beings per se and relatives) to the One and the Indeterminate Dyad. – That Aristotle here is thinking of such a Platonic theory may be inferred from the prominent place of the relatives⁴⁰, as well as from the fact that he substitutes ἀρχαί for αἰτία (cf. a25)⁴¹.

δῆλον ὅτι πολλαχῶς γε λεγομένων ἔστιν ἐκάστου. The clause is elliptical and we must understand "in so far as the term 'principles' is used ambiguously, everything has the same principles" (ταῦτά ἐστι τὰ στοιχεῖα ἐκάστου). γε is a correction by Christ, approved by Ross and

³⁶ For this sense of εἶδος see *Phys.* 209b3: "place would be 'the form and shape' of each body by which the magnitude or the matter of the magnitude is defined". On the use of μορφή καὶ εἶδος see *Met.* 1015a5; 1017b25; 1043b32; 1055b13; 1060a22; *Phys.* 193a30.

³⁷ *P.A.* 644a25. W. Ogle (Oxford Transl.) and Peck in the Loeb edition laboured under the apparent strangeness of the expression (κατὰ δὲ ταῦτα means 'among these': see L. Robin, *Aristotele*, pp. 90ff.).

³⁸ L. Robin, *La pensée hellénique*, 486ff.; Ross, *Met.* CXVII; Tricot, *Métophysique* I, 393.

³⁹ This means that the question had not yet been decided in the previous lines, – that τῶν μὴ ἐν ταῦτῳ γένει of a25 do not refer to the categories, and that, therefore, χρωμάτων κτλ. are to be excised.

⁴⁰ See the commentary on 1069a21.

⁴¹ Ἀρχαί may also denote constituent principles (the One and the Dyad), whereas αἰτία signifies external causes in the first place. Speaking about Plato's theory of principles Aristotle always uses ἀρχαί καὶ στοιχεῖα, as I have pointed out above.

Jaeger, and required by the context. (In Greek manuscripts confusion of γε and τε repeatedly occurs). It is restrictive and intimates a concession to the Platonists. – The πολλαχῶς λέγειν goes back to Plato who insisted upon the different meanings of the verbal form ἔστι, and on enumerating the various meanings of a given term in the procedure of diaeresis⁴².

διαίρεθέντων δὲ οὐ ταῦτά ἀλλ' ἕτερα, πλὴν ὧδέ. The verb διαίρειν here does not signify to divide by means of a dichotomy, but denotes a more general division of principles into different classes or types. – The absolute genitives in the clause are grammatically speaking not correct; for the subject is that of the leading verb: the effect of this construction, which is rather frequent in Greek and in Aristotle, is to emphasize the idea contained in the participle.

With Jaeger I read a full stop after the first ὧδέ, and with Bonitz, 487, and Jaeger I think that ἡ should be omitted: the chapter purports to investigate in which way principles are analogically the same; it would be strange if here a distinction would be made between strict identity of causes and analogical identity. To this we may add that with ἡ the Greek becomes awkward, so that Ross proposes to read τὸ ἀνάλογον⁴³. It is more likely that ἡ was inserted after ἐτι τὸ πρῶτον ἐντελεχεῖα had been added: the First Mover is active in the same way and one cannot say that it is analogically the same cause.

ὅτι ὅλη εἶδος στέργεις τὸ κινεῖν. We must supplement "are common to all" (to be derived from πάντων in the main clause). The ellipsis of the verb and the complement is not elegant, yet not unusual given the special character of this chapter which is an outline of a lecture rather than a text intended for publication. – The four causes enumerated are also listed in 1070b26ff. Apparently the moving cause mentioned

⁴² Cf. Eudemus, fr. 37 a Wehrli: *Simpl.*, in *Phys.* 97,25-30 and 99,25ff.; E. Hambruch, *Logische Regeln der Platonischen Schule in der Aristotelischen Topik*, Berlin 1904, 23. Insistence on this principle played an important part in Aristotle's and Theophrastus' scientific method. Cf. Wallies, *Die Griechischen Ausleger der Aristotelischen Topik*, Berlin 1891, 4; O. Regenbogen, *R. E. Suppl.* VII, 1338, 64ff. and G. E. L. Owen, in *Aristotle and Plato in the mid-fourth Century*, Göteborg 1960, 182ff. See also H. Wagner, 'Ueber das aristotelische πολλαχῶς λέγεται τὸ ὄν', in *Kantstudien* 53 (1961), 75-91, and H. J. Kraemer, *ibid.* 58 (1967), pp. 339ff.

⁴³ This alone does not sufficiently improve the text, – and the correction τὸ (for τῷ) conflicts with the expression used in 1071a4 and a26). – If the ἡ should be kept in the text, it would be better to read ἡ τῷ ἀνάλογον, scil. in as far as used analogically.

here is not the First Mover, but any external cause (cf. 1071a14-16).

καὶ ὥδι τὰ τῶν οὐσιῶν αἷτια ὡς αἷτια πάντων. Bonitz, 487, suggests to read ὅτι instead of ὥδι, and finds a corroboration in Themistius' commentary. To this I would object that Themistius had only a limited understanding of this text and that his notes are hardly reliable⁴⁴, yet Bonitz' suggestion deserves praise in as far as it draws attention to the fact that ὥδι δέ in line 36 answers to ὥδι μὲν in a33. According to the sense of the passus ὅτι would be better than ὥδι, yet the author's desire to avoid having three ὅτι follow each other, may perhaps account for the use of ὥδι. The clause remains difficult. It is best to understand ὡς αἷτια πάντων <λέγεται>. The clause does not indicate a second way in which all things have the same causes (as Ross suggests), but is the second part of the explanation of the principle stated in a33.

ὅτι ἀναιρεῖται ἀναιρουμένων. Accidents cannot be without their substance⁴⁵. – The subject of ἀναιρεῖται is πάντα, of ἀναιρουμένων it is οὐσιῶν⁴⁶.

a35. ἔτι τὸ πρῶτον ἐντελεχέα, – 'the first in actuality' i.e., the supreme moving force. – Entelechy is a term created by Aristotle to denote the result, final state, i.e., the *act* reached in a process of change. When coining the term Aristotle is likely to have been influenced by the term ἐνδελέχεια⁴⁷. In Book A the term does not occur elsewhere, except in chapter eight, 1074a36. Aristotle uses instead ἐνέργεια, as, for instance, in 1071a18-19⁴⁸.

It would seem that the clause, which goes beyond the doctrinal contents of the chapter and anticipates the result of the following arguments, was added later. See also the commentary on a33.

a36. Aristotle now explains in which sense the first principles are different. ὥδι μὲν... ὥδι δέ..., for other instances see *Met.* 1031a10; 1072a10; *P.A.* 649a12. The subject of πρῶτα are the αἷτια of a35, and in a remote way the ἀρχαί and στοιχεῖα of a30. Ross takes πρῶτα to mean *proximate* causes. The term can have this sense and inconsistencies

⁴⁴ He seems to have read πάντως for πάντων (13,4).

⁴⁵ The principle was first stated by Plato. See *Met.* 1019a3.

⁴⁶ Ellipsis of the subject of an absolute genitive occurs repeatedly in the *Corpus*. Cf. *De caelo* 299a8; 312b17; *Met.* 990b14.

⁴⁷ On the origin and meaning of the term see K. von Fritz, *Philosophie und sprachl. Ausdruck*, p. 66.

⁴⁸ Mr. Chung-Hwan Chen pointed out that, although both terms originally have different meanings, in the *Corpus* they are often used in the same sense (*Class. Quart.* VIII (1958), 12-17).

in the use of πρῶτος, meaning 'primary' and 'ultimate', may occur in the same chapter. Following ps. Alexander, 685,18, Ross assumes that Aristotle is saying that different individuals have different forms and different privations (a37 would support this interpretation, because contrary qualities within a genus are excluded and thus only form and privations seem to qualify)⁴⁹.

Bonitz, 487, takes the text to refer to contraries like warm – cold, white – black, as concretely realised in the individual. – Schwegler, 251, thinks that the opposition between the heavens and the sublunar world is meant.

In view of the following καὶ ἔτι αἱ ὕλαι (the concrete matter of the individual) it would seem that τὰ ἐναντία signify the form and privation in an individual. ἀ μήτε ὡς γένη λέγεται κτλ. would then mean that Aristotle is not speaking of contraries as a genus (e.g. contrary colours) nor of contraries in their most general sense⁵⁰.

1071b1. τίνες μὲν οὖν ἀρχαί κτλ. The last lines of the chapter conclude the discussion of the first part of Book A viz. of cc 2, 3, 4, 5 (1069b3-1071b1) and remind the reader that the principles of *sensible* things have been studied.

Apparently a new section of the book begins with chapter 6 which will discuss the third level of beingness announced in the introductory chapter, 1069a33⁵¹.

⁴⁹ Alexander as quoted by Averroes, *op.cit.*, 312 M, suggests that the text might have the sense that the causes of things which differ in genus, differ generically, those of things which differ in species or individuality, differ specifically or individually. – Against ps. Alexander and Ross one may object that τὰ ἐναντία is a very unlikely name for form and privation.

⁵⁰ On the different meanings of the term 'contrary' see *De contrariis*, fr. 5 Ross.

⁵¹ Similar conclusions of one part of a treatise or book frequently occur in the *Corpus*. Cf. the last lines of *Met.* A 2, 4, 5, 7: *De caelo* A 7, 8, B 2, etc.

CHAPTER SIX

In this chapter Aristotle turns to the discussion of unchangeable being: if all things would be perishable, time (= motion) would be so too, but it is impossible that there is a 'before' or 'after' when there is no time. Hence there must be perpetual time and perpetual movement, and an everlasting body which is moving with circular motion.

To explain the occurrence of movement we must assume that there is a principle whose being is actuality. Some of the ancients postulated a principle like chaos or night, yet ultimately actuality must precede potentiality.

1071b3-5. ἐπεὶ δ' ἦσαν τρεῖς οὐσίαι. The text is commonly understood as referring to A 1, 1069a30. There is a difficulty, however, in that chapter one appears to consider sensible things as only one class or level, whereas here two classes of sensible things are postulated.

The imperfect tense of ἦσαν does not necessarily mean that Aristotle is referring to a previous discussion, but may also signify a generally acknowledged law of being¹. – In view of this it is perhaps better to consider these lines a new introduction to the treatise of the First Mover, independent of A 1.

The division of reality into corruptible beings, celestial bodies and supreme, unchangeable being is characteristic of school aristotelianism: it does account for the doctrine of large sections of the *Corpus* but it is not adequate to explain to what extent Aristotle admitted subsistent principles between the First Mover and sensible things; furthermore, it does not sufficiently explain the fact that in his *De caelo* and in *Met.* E 1,2 Aristotle made both the heavens and the sublunar world the object of the same science².

¹ For some examples of this use of the imperfect tense cf. *Theaet.* 156a; *De caelo* 278b34.

² Aristotle's tripartition of philosophy fits this division into three levels of being very badly, as Zeller observed (II 2³ (1879), 178-182) and Merlan after him

The construction of περὶ ταύτης λεκτέον ὅτι κτλ. is awkward. The term οὐσία in b3 is used in two different meanings, viz. that of a class of being, level of beingness, – and of substance. – This confirms the impression that the first three lines of the chapter are likely to be an introduction added by a later editor in order to connect cc. 6 and 7 with the previous chapters. – The terms ἀιδίον τινα οὐσίαν ἀκίνητον seem to have been taken from 1072a25.

b5-11. αἱ τε γὰρ οὐσαι πρῶται τῶν ὄντων. For Aristotle substance is the ontological foundation of all accidents. Cf. 1028a29-1028b7 (ὁμῶς δὲ πάντως ἡ οὐσία πρῶτον) and 1071a33-35.

Aristotle argues that movement cannot start or come to an end. The reason is that movement is time, and time is imperishable, for, if there were no time, there would not be a before and after (we cannot think of something before time or after time). Hence, there is perpetual time (and movement). But the only way in which movement can be continuous is by being circular movement.

In *Phys.* VIII 1 the argument that movement is eternal starts from the definition of movement as the actualization of the movable *qua* movable: if things capable of being moved would have been at rest before being in movement, a change would have occurred before the supposed first change. Likewise, movement is imperishable, because, if it would be discontinued, there would be a change after the last change. In the following lines, 251b10-15, Aristotle argues that, when there is no time (which is dependent on motion), there is no before and after. The argument is similar to that in this section of A 6, which seems to be a shortened version of *Phys.* VIII 1³.

ἀεὶ γὰρ ἦν. The terms seem to evoke or point to a previous demonstration known to the reader (which would fit in very well with the assumption that the passus has been abbreviated from *Phys.* VIII 1). One may also explain the imperfect tense ἦν as expressing a law of being and continued duration (cf. *Theaet.* 156a: τὸ πᾶν κίνησις ἦν and *De caelo* 278a11, b34). On this assumption the connection with *Phys.* VIII would be more remote.

(From *Platonism to Neoplatonism*, 53). There is however one text which mentions three sciences which concern respectively the unmoved things, moving, but imperishable and perishable things (*Phys.* 198a29-31). This division better agrees with the doctrine that there are three levels of οὐσία.

³ For a masterful analysis of the arguments of *Phys.* VIII and their defects, see G. Verbeke, 'La structure logique de la preuve du Premier Moteur chez Aristote', in *Revue philosophique de Louvain* 46 (1948), 137-160.

καὶ ἡ κίνησις ἔρα οὕτω συνεχῆς ὥσπερ καὶ ὁ χρόνος.

In *Phys.* VIII 1 the argument does not appear to go beyond the statement that movement is always and does not say that there is continuous movement; moreover, although movement is compared to time (cf. 251b28), time is assumed to be dependent on movement. – In *Phys.* VIII 6 Aristotle asserts that there is a *continuous* movement: what is always (τὸ ἀεί) is continuous, whereas the successive is not; the continuous is one. That movement is always was shown in *Phys.* VIII 1, yet it is not so easy to see how we can infer from this that there must be an eternal, continuous movement. The underlying thinking seems to be that this perpetuity of motion requires as its ontological basis one eternal continuous movement (cf. the *De caelo* I 12).

In 1071b9-12 the argument takes a different turn: because time is continuous, movement also is, being the same as time or its property. – It is difficult to see how this argument could be conclusive. If by 'continuous time' Aristotle means man's concept of time, we cannot infer from the idea of a continuous time that there is a continuous movement. But if 'time' has the less precise meaning of man's idea of continuity which he gains from the observation of the movement of the celestial bodies, one may perhaps say that the inference makes explicit what is contained in the premiss⁴. But even on this assumption the reader is left with certain doubts. Hence, it is best to assume that these lines of chapter six were borrowed from *Phys.* VIII by an editor who needed a short introduction to the subject of the chapter.

The introductory passus was intended to establish that there is a perpetually moving body⁵. It is continued in the first section of chapter seven: since there is such a body, there must be a being which moves others, not being moved itself.

In the *De caelo* related arguments occur. In I 3 Aristotle argues that the eternal body is outside the realm of contraries, for its circular motion has no contrary. In II 3 we encounter the following reasoning: the divine must have a perpetual activity. The heavens are divine, –

⁴ This would also explain why Aristotle uses the definite article in 1071b9 (ἡ κίνησις).

⁵ That Aristotle is thinking of a *body* in perpetual movement may be inferred from the fact that this reality is said to be moving with circular motion. – As K. Oehler rightly observes, at this stage of the argument there is no question yet of an eternal unchangeable substance. See his 'Der Beweis für den unbewegten Beweger bei Aristoteles (*Metaph.* A 6. 1071b3-20)', in *Philologus* 99 (1955), 70-92, 71 ff.

hence they have a circular body so as to be able always to move with circular motion.

The essential difference with A 6 is that in the *De caelo* circular motion is made the point of departure, whereas in the *Metaphysics* Aristotle tries to prove by an a priori argument that there is eternal motion. At first sight the argument seems patently invalid since it infers from a fact in the logical order that 'timelessness' is impossible. Aristotle was perhaps not unaware of this⁶ and originally he may have used it as providing only some probability⁷.

One may perhaps compare the argument with Bergson's demonstration that absolute nothingness is impossible⁸: the human mind postulates that some being always existed; if at a certain moment nothing would be, there would never be anything⁹.

Aristotle assumes that what is predicated of an accident (perpetuity is said of circular motion) also applies to its substance¹⁰. Circular motion is apparently conceived by him as a necessary and uniform movement, i.e., as the manifestation of an essence, i.e., as a property of only one substance¹¹.

b10. ἡ γὰρ τὸ αὐτὸ ἡ κινήσεως τι πάθος. Lines b8-10 appear to be a summary of *Phys.* VIII 1, 251b10-28; the description of time as πάθος τι κινήσεως also occurs in 251b28. In this chapter of *Physica* VIII Aristotle wants to demonstrate that there is an eternal movement. As a more or less independent argument the passus on time is inserted:

⁶ Aristotle sometimes states that the principles of knowledge are also the principles of reality. Cf. *Met.* 1022a10; *Protr.* fr. 36 (Düring; see P. Wilpert, *Zwei arist. Frühschr.* 133; *De caelo* 302a10 ff).

⁷ The text might be a shorter version of *Phys.* VIII 1. – In the *De caelo* often several arguments are given to prove a point, some of which only have a limited strength. Aristotle is keenly aware of the fact that not all his arguments have the same stringency. See my *Aristotle's Cosmology*, p. 54.

⁸ *L'évolution créatrice*, Paris 1907 (1946), pp. 275 ff.

⁹ St. Thomas Aquinas, *Summa theologiae* I, 2, 3 (*tertia via*). In his commentary *i.h.l.* St. Thomas observes that the argument is not conclusive: non enim, si ponimus tempus quandoque incepisse, oportet ponere prius nisi quid imaginatum (*In XII Met.*, lect. 5, 249 8).

¹⁰ For Aristotle there is no movement without physical substance. See *Phys.* 200b32 (οὐκ ἔστι κίνησις παρὰ τὰ πράγματα), and *G.C.* 279a15 (καὶ ἄνευ φυσικοῦ σώματος οὐκ ἔστιν).

¹¹ Plato assigned one essential function to each species of things. Cf. *Rep.* 352d, 353b. Aristotle holds a similar view. Cf. *Protr.* fr. 64 Düring and the *De caelo*, where the simple bodies are given one fundamental movement as the expression of their being.

time is the number of movement or a sort of movement. Hence, what holds true of time, will also hold true of movement. Now all philosophers, with one exception, admitted eternal time. This view is based on the fact that time exists in instants: each instant has the character of a mean, for it marks the beginning of a new and the end of a previous time. If so, there never is an absolute end or beginning. – According to this argument time, and therefore being, would be intrinsically successive. It is somewhat surprising that in this connection Aristotle did not ask the question of whether this 'successive being' of time is not only something of the mind, but also exists in reality¹². Aristotle likewise does not consider here the statement he made in *Phys.* 219a1 that time is not movement. – In asserting this he obviously has in mind uniform movement, because not-uniform movement cannot be numbered. Cf. *Anal. pr.* 32b10.

b11. Circular movement has no contrary. The body which moves with circular movement is more perfect than the bodies which move upwards and downwards; it is beyond the sphere of contrariety (*ἐξελείσθαι ἐκ τῶν ἐναντιῶν*), and thus eternal. See *De caelo* I, 2, 3.

All other changes as well as non-circular local movements are between opposites: when the movement reaches its terminal it comes to a rest before turning into the opposite direction¹³. Hence none of these movements is continuous. See *Phys.* 261a31-263a3; 264a7-265a12.

1071b12-1072a18. The second part of the chapter forms a well-composed unit. It is not concerned with the study of the nature of the body which moves with a continuous movement, but it is centered around the question of the origin of movement. Plato's forms and the principles advanced by earlier philosophers do not provide an adequate explanation. The true origin of movement can only be a principle whose being is actuality.

b12. *κίνητικον*. The adjective is formed from the verb-stem by addition of *τικόν* (*ἀριθμητικός*, *πράχ-τικός*) which indicates the capacity to do something. While *τὸ κινεῖν* or *τὸ ποιεῖν* draw attention to the

¹² Elsewhere Aristotle raises the question whether there would be time if there were no soul. See 223a21-29.

¹³ Local movements which although not fully circular, would still return to the starting point (as, for instance, a movement along an elliptical trajectory) can also be continuous. For Aristotle they would belong *reductive* to the class of circular movements.

action, adjectives like *κίνητικόν* and *ποιητικόν* put more emphasis on the subject which is acting.

The terms *κίνητικόν* and *ποιητικόν* are not wholly identical: the latter term implies that change takes place in the subject which is acted upon, the former does not necessarily imply this¹⁴.

What is capable of moving or producing an effect must actually do so. If not, there will not yet result any movement. – The future *ἔσται*, as it often does in the *Corpus*, indicates the conclusion of an argument, – something which is bound to happen if the premisses are fulfilled¹⁵. The term *κίνησις* here has apparently a wider sense, signifying both the effect of the activity of the *κίνητικόν* (local movement) and of the *ποιητικόν* (change).

b13. *τὸ δύνανμιν ἔχον*, that which has the power to work. In these lines Aristotle points out that in order to explain the occurrence of movement the agent must be actually engaged in producing its effect, – and be so continuously. This agent which is the ultimate cause of movement cannot have any potentiality in its being with regard to its activity: for when there is potentiality, activity cannot but sometimes fail¹⁶. In the *De anima* 417a17 the metaphysical contents of this passus are stated in the principle that the agent must be in actuality that towards which it is moving the recipient.

The occurrence of movement would only seem to require an agent which is in actuality at the time he is moving the recipient. In *Physica* VIII 5 a more detailed analysis is given: if the mover did acquire its causality, it must itself have been moved by something else. An infinite series of intermediate movers is impossible. Hence there must be a first mover who does not receive its causality from another, but is perpetual actuality by itself.

In this chapter the argument is different in as far as Aristotle's starting-point is the eternal, continuous movement of the heavens. For this reason he does not need to speak of a series of movers¹⁷. It is

¹⁴ See G.C. 323a15ff., and our commentary on 1075b31. Sometimes Aristotle uses the terms as if they were synonyms.

¹⁵ The reading *ἔσται*, adopted by Ross and Jaeger, was probably also that of the Arab translators (Walzer, *op.cit.*, 226).

¹⁶ A potentiality which would never be what it is, but always be actuality, would be superfluous and contradictory. – In the *De caelo* I 12 Aristotle argues in a similar way that a thing which has the potentiality not to exist, cannot exist for ever (281b25ff.). Cf. also *Met.* 1050b7: *ἔστι δ' οὐδὲν δυνάμει ἀίδιον*.

¹⁷ The argument which takes the eternity of movement as its starting-point is also found in *Phys.* VIII 6.

surprising that he does not explicitly state the principle that whatever moves, is moved by something else: it is obviously a presupposition of the argument and should have been mentioned after the first section, b5-11. – The formulation of the argument in *Phys.* VIII 5 seems more advanced and there the starting-point is any movement, and not the hardly ascertainable *eternal* movement of the heavens. In spite of these defects this page is one of the most important of the entire *Corpus* because of its presentation of Aristotle's doctrine of actuality and potentiality.

b15. The criticism which Aristotle here makes of the Platonic Forms is that the Forms are not essentially actuality (they are 'man', 'wisdom', etc.). For this reason even if they would sometimes move, they would not do so for ever, and hence they do not account for the occurrence of perpetual movement. – Elsewhere Aristotle advances a more sweeping criticism of the assertion of the *Phaedo* that the Forms are causes of being and becoming: according to their true being Forms will be principles of immobility and rest rather than of movement¹⁸.

b16. οὐδ' αὖτη, scil. the οὐσία of the ideas. The other classes of being besides the Forms Aristotle here refers to, probably are the object of mathematics or numbers. Cf. *Met.* 1028b20.

b19. ἐνδέχεται γὰρ τὸ δυνάμει ὄν μὴ εἶναι. Whatever has potentiality will not always be actually, but will sometimes be in a state of potentiality. If not, this potentiality would be in vain. Cf. *De caelo* I 12.

From this Aristotle infers that the (ultimate) cause of movement must be such that its very being is actuality. – The statement is peculiar to *Met.* A for in the *Physics* the term ἐνέργεια is not used in connection with the First Mover¹⁹. We must consider it as the fundamental principle of Aristotle's theology, which is even prior to assertions like 'he is thought of thought' (1074b34). – Although the principle is presented as the result of an analysis of movement, it is possible that in its conception Aristotle was influenced by the Platonic doctrine of soul as an ever active substance. In the *De anima* 430a18 Aristotle uses similar terms to define the active intellect: τῇ οὐσίᾳ ὄν ἐνέργεια.

By this doctrine Aristotle affirms that the First Mover is both above potentiality and unmoved and also establishes that this supreme being

¹⁸ *Met.* 991a11. Cf. L. Robin, *Th.Pl.I.N.*, 89-91.

¹⁹ An exception are clauses like 'the mover must be in actuality' (ἐνέργειᾳ ἔστω), which also apply to the First Mover.

is activity. One might say that he is taking up the central theme of Parmenidean thought: supreme reality is both immovable and active²⁰. By imitating this activity of God man can overcome the defects inherent in motion.

b20-22. These two lines which interrupt the argument, state that, because these beings are eternal, they are without matter. The idea of eternity is somewhat abruptly introduced here. It even seems to conflict with b8-11 which assume a perpetually revolving body. – What is outside the realm of becoming and contrariety is eternal (*De caelo* 282a23) and may, in a limited sense, be said to have no matter (*Met.* 1044b28-29)²¹. Hence eternity alone is not an adequate reason for establishing the immateriality of the First Mover²². – It is hardly likely that Aristotle himself added these lines, in view of (a) ἐνέργειαι ἄρα²³, "Apparently because they are ἐνέργειαι". The expression provides the real reason for the immateriality of the first movers, and seems to be a comment on or correction of the clause on eternity. – If so, the original probably had ἐνέργειαι. ἄρα indicates that something which had not been grasped before, is now apprehended²⁴.

(b) the plural τὰς οὐσίας in this context, where there has been no question of a plurality of movers and nothing in the argument makes us expect that there are several, is strange. – In view of the fact that this Mover is essentially actuality, and potentiality is entirely absent, there does not seem to be left any metaphysical basis for differentiation and plurality. H. Wolfson, following the Arab commentators, suggests that each of these first movers is of a different species, whereas Merlan believes that they may stand to each other in a relation of priority and posteriority²⁵. Yet none of these explanations solves the metaphysical problem. A. Mansion points out that here, unlike in *Phys.* VIII 6, the

²⁰ Parmenides B 6, 29. See L. Kosman, "Aristotle's Definition of Motion", in *Phronesis* 1969, 40-62, p. 60.

²¹ It has no potentiality with regard to becoming, but may have other types of potentiality (matter in an analogous way), as, for instance, ὅλη τοπικὴ (1036a9; 1037a4). See Ph. Merlan, in *Rhein. Mus.* 111 (1968), 1-15.

²² That 'eternity' is essential to the argument is underlined by the εἴπερ γε καὶ ἄλλο τι ("more than anything").

²³ I read the plural with E J.

²⁴ If with Ross one takes ἄρα to mean 'therefore', one makes actuality the result of eternity, which both in the argument of the chapter and for philosophical reasons, is nonsense.

²⁵ A. Wolfson, in *Harvard Studies in Class. Philol.*, LVI-LVII (1947), 243-5; Ph. Merlan, in *Traditio* IV (1946), pp. 10-12, nn. 39, 40.

plurality of movers is not referred to as a hypothesis to be explored, but as something with which the author is perfectly acquainted and to which he consents²⁶. – If this is correct, the more is there reason not to consider the clause as written by Aristotle himself, for it conflicts with the metaphysical implications of the argument, and with the gist of the doctrine of *Phys.* VIII and A 7, 9, 10²⁷. One might object against this deletion that on several occasions Aristotle mentions unmoved, eternal principles (1015b14; 1026a16; 1091a20-21; *De caelo* A 9, etc.), and that therefore it is quite normal that such principles are mentioned here. – Against this line of interpretation stands the fact that in A 6 these οὐσίαι are considered as causes of movement, whereas in the above mentioned texts they seem to be external formal principles, or just immaterial being. Furthermore, the occurrence of the clause in this context as well as its wording raise serious doubts as to whether it belongs here. – On the view which sees in these οὐσίαι principles within the same transcendent reality, see the Introduction VII.

b22. Aristotle further explains his doctrine of pure actuality by dealing with an objection: potentiality seems to be more encompassing than actuality, because there are more things in potentiality than things that have been brought to actuality. Should we therefore not say that potentiality is prior to actuality? In a certain sense this position is right: in generation potentiality precedes actuality (1051a32). However, Aristotle does not now enter into details. In a clause which is as short as it is deep in metaphysical content, he says that, if actuality would not be prior, there would be nothing. For things which can exist, do not yet necessarily exist. – Aristotle's argument derives its strength from the fact that contingent being does not have in itself a sufficient reason for its actual existence; if everything would be contingent, there would be nothing²⁸. Hence a necessary being must exist so that contingent being may be. – ἀλλὰ μὴν in b25 marks a new stage in the development of the argument²⁹.

b26. The problem of how to explain the origin of contingent being was not solved by the 'theologians' or the natural philosophers. – καίτοι here is used continuatively, yet it also intimates that what

²⁶ A. Mansion, in *Revue néoscholastique de Philosophie*, 1927, pp. 338-9.

²⁷ For similar reasons Von Arnim rejects the clause (*Gotteslehre*, 58f.).

²⁸ For a more explicit formulation of the same argument see St. Thomas Aquinas, *Summa theologiae* I 2, 3 (*tertia via*).

²⁹ On this sense of the particle see Denniston, *op.cit.*, 344,4.

follows may be considered an objection against the argument. – εἰ ὥς λέγουσιν, scil. εἰ οὕτως ἔχει ὥς λέγουσιν.

By 'theologians' Aristotle means the poets who accounted for the origin of things in mythical terms. Cf. *Met.* 983b27; 1000a9, and 1091b4: "The old poets agree with this in as much as they say that not those who are first in time, e.g. Night and Heaven or Chaos or Ocean, reign and rule, but Zeus." – Homer personifies Night (*Iliad* XIV, 258); Hesiod assigns a role to it, but does not consider it an absolutely first principle (*Theogony* 116ff.). Since in b27 Aristotle mentions a view according to which Night would be absolutely first, he most likely has in mind post-Hesiodic cosmogonies, as those ascribed to Orpheus, Musaeus and Epimenides³⁰. To Aristotle Night represents privation and potentiality, and for this reason it cannot be the origin of things.

b27. According to Aristotle the natural philosophers, headed by Thales, are the founders of scientific philosophy. In this connection he is mainly concerned with Anaxagoras, whose basic principle he quotes³¹. He is not now analysing the precise meaning of Anaxagoras' doctrine, but takes the principle to say that in the original mixture all things are somehow precontained³². – Aristotle argues that without an efficient cause which is actually working, that what is potentially contained will never become actual. – In *Phys.* 200a24ff. he illustrates this by saying that stones and wood do not become a house by themselves.

b30. In Aristotle's terminology ἡ γονή is the *liquor seminis* which for him is the contrary of menstrual blood³³. τὰ σπέρματα here mean the seeds of plants which act on the earth. – The terms of the clause are arranged in the pattern of a chiasmus. – In primitive Greek cosmologies the earth was commonly considered the female principle and called mother³⁴.

³⁰ Diels-Kranz, Orpheus B 12; Epimenides B 5. See Kirk and Raven, *Pr.Ph.* 20; the authors assume that Night got its priority in cosmogonies at a later stage only and that it served as a personification of chaos.

³¹ DK, B 6, 11, 12.

³² See our commentary on 1069b21.

³³ Cf. *G.A.* 727a3: ὥς τοῖς ἄρρεσιν ἡ γονή οὕτω τοῖς θήλεσι τὰ καταμήνια. See also *Met.* 1044a35.

³⁴ See *G.A.* 716a15-17; DK, Orpheus B 21; Anaxagoras A 117. On its place in Greek religion see A. Dieterich, *Mutter Erde*³, (1925) and M. Nilsson, *Geschichte der griechischen Religion*, I³, 459.

b31. διὸ ἐνιοὶ καὶ. Leucippus and Democritus posited ever moving atoms. Cf. Hippolytus, *Ref.* 1,13,2: ἔλεγε δὲ ὡς αἰεὶ κινουμένων τῶν ὄντων ἐν τῷ κενῷ³⁵ – According to *G.A.* 742b17 Democritus was aware of the difficulty of how to explain this perpetual movement. He argued that movement is infinite and that the infinite has no cause. – For Aristotle, however, this explanation is not satisfactory³⁶. He criticises the atomists for not indicating the cause (διὰ τῆς) and the character (τίνος) of this movement. Perhaps in reaction to Anaxagoras' doctrine that νοῦς is the cause of motion, the atomists, in fact, held that no cause was required to set the atoms in motion, because motion simply results from, or belongs to the nature of the atoms. This motion is aimless, has no special direction³⁷. "The eternal atomic motion was in Democritus' view beyond all causes and was itself the Force of all. For if the conception of the eternal being of the universe be not merely of atoms moving in the void, then we have no more right to ask for the cause of movement than we have for the cause of the existence of the atoms and the void themselves"³⁸.

Ross thinks that it is not fair to apply the same criticism to Plato, for, contrary to what the text intimates, Plato did indicate the cause of perpetual movement, viz. the world soul. – The passus, however, cannot so easily be dispensed with. Aristotle may have in mind, not the purposive movement, of which soul is the principle (see b37ff.), but the σεισμός which Plato postulated for the receptacle³⁹. In the *Timaeus* movement is, in fact, represented as something which is

³⁵ As H. Cherniss points out in his *Aristotle's Criticism of Presocratic Philosophy*, p. 173, n. 128, the text seems to imply that Leucippus was the first to hold that motion is eternal.

³⁶ Cf. also *De caelo* 300b8ff.

³⁷ The course which the atoms actually take is ascribed to both chance and necessity by later commentators. See Guthrie, *HGPh* II 414-6. – For Aristotle every natural movement must be movement towards a certain terminal. – Anaxagoras seems to have taught that νοῦς set being, which was at rest, into movement. Cf. Epicurus, apud Lucretium, V 166ff.; Cicero, *N.D.* I 22. The atomists opposed this theory and postulated the eternal movement of matter. Diogenes of Apollonia seems to have admitted their criticisms of Anaxagoras' theory. See O. Gigon, 'Die Theologie der Vorsokratiker', in *La Notion du Divin, Entretiens sur l'Antiquité classique*, Vandoeuvres-Genève 1952, 127-155, p. 151.

³⁸ C. Bailey, *The Greek Atomists and Epicurus*, Oxford 1928, p. 133. Cf. J. Kłowski, 'Der historische Ursprung des Kausalprinzips', in *Archiv für Geschichte der Philosophie*, 48 (1966), 225-266, 264.

³⁹ Cf. *Tim.* 30a; 52e; 57c (τὴν αἰεὶ κίνησιν); 58c. In a similar context (*G.C.* 337a7-15) Aristotle refers to the latter text.

already there⁴⁰. At the most one can say that it arises from ἀνάγκη, that is, it is conceived as intrinsically inherent to primeval matter, or, at least, to the Great and Small⁴¹. Aristotle could advance against this theory the same criticism which he brought forward against atomism.

On a different level Plato considered soul and mind the cause of regular and purposive movements⁴². Aristotle could also criticise this explanation because it still fails to account for the rise of self-movement⁴³, but, with regard to purposive movements one cannot say that Plato did not distinguish between several kinds of movements. See *Tim.* 34a and *Laws* X, 893b-894b.

In yet another sense Plato made the ideas the causes of movement in as far as they are the ultimate source from which the form to be introduced into the substrate derives⁴⁴. In this context, however, Aristotle is probably not thinking of the ideas as alleged causes of movement, but of Plato's theory of motion as stated in the *Timaeus*, in which motion is something given and something wholly indefinite, upon which νοῦς is to impose order. For argument's sake he isolates the *Timaeus* from the other dialogues, in which a different view is proposed. In 1072a1 Aristotle says that sometimes (ἐνίοτε), i.e., in other dialogues, Plato does speak of the origin of movement. See below. The wording intimates that Aristotle felt that Plato's explanation of movement was not entirely consistent⁴⁵.

⁴⁰ See M. Meldrum, 'Plato and the 'APXH KAKΩN'', in *JHS* 70 (1950), 65-74, p. 66. Cf. also G. Vlastos, in *Class. Quart.* XXXIII, 80.

⁴¹ See J. Skemp, *The Theory of Motion in Plato's later Dialogues*¹, Amsterdam 1967, 74ff.; Eudemus fr. 60 Wehrli who says that Plato identified movement with the Great and Small, not-being and the irregular.

⁴² Cf. *Tim.* 46d; *Phaedr.* 245c (πηγὴ καὶ ἀρχὴ κινήσεως); *Laws* 895 (ἀρχὴν ἀπὸ κινήσεων πασῶν).

⁴³ See *Phys.* VIII 5. – More in particular Aristotle was critical of Plato's identification of thought with circular movement. See *De anima* 407a15ff.

⁴⁴ Several texts of the dialogues assign a role to the ideas, although the ideas themselves were considered to be at rest (*Met.* 988b2-4; 992b7-9; *Top.* 113a24-30; 148a20). See P. Natorp, *Platos Ideenlehre*² (1961), 330f.; K. Gaiser, *op.cit.*, 193. – On the question of whether Plato introduced movement into the realm of ideas, see Robin, *ThPLIN*, 492 and A. Diès, *La définition de l'être et la nature des Idées dans le Sophiste de Platon*², 132 n.

⁴⁵ This text favours the interpretation of those who think that the theory of motion of the *Timaeus* does not quite agree with that of the *Phaedrus* or the *Laws*. For a recent survey of the evidence see R. Demos, 'Plato's Doctrine of the Soul as self-moving Motion', in the *Journal of the History of Philos.* 6 (1968),

b34. οὐδὲ ὥδι οὐδὲ τὴν αἰτίαν (codd.). Apart from the fact that in the manuscript reading the ὥδι has no special role, the clause is strange because the διὰ τί already stated that these philosophers did not indicate the cause of movement. If we assume the clause not to be a gloss⁴⁶, it would seem to have the function of stating that the atomists or Plato did not indicate the cause of a particular characteristic or direction of movement⁴⁷. In *Phys.* 225b the term ὥδι is used to denote a particular kind of terminal, e.g., movement towards εἰς ἀντικείμενα ὥδι (to a particular kind of opposite). Assuming that the ὥδι in this text has a similar meaning, Jaeger's correction is the best one proposed thus far: οὐδὲ <τοῦ> ὥδι <ῆ> ὥδι τὴν αἰτίαν. – If such a far-reaching corruption is thought unlikely, I would suggest this solution: οὐδὲ οὐ δὲ ὥδι τὴν αἰτίαν. οὐ δὲ ὥδι, of why in this way. – The expression was so concise that corruption was almost bound to occur. – One may perhaps also read οὐ δὴ of which there are some parallels in Plato's dialogues. Ellipsis of the article before οὐ is not so strange: although the use of the article in expressions like τὸ οὐ ἔνεκα, τὸ ἐξ οὐ etc. is by far the most frequent, there are cases where no article is used. Cf. *Met.* 1069b36ff.

b34. οὐδὲν γὰρ ὡς ἔτυχε κινεῖται, ἀλλὰ δεῖ τι αἰεὶ ὑπάρχειν, ὥσπερ νῦν φύσει μὲν ὥδι, βίᾳ δὲ ἢ ὑπὸ νοῦ ἢ ἄλλου ὥδι. – The clause is difficult⁴⁸. Ross takes the ἀλλὰ δεῖ τι αἰεὶ ὑπάρχειν to mean that there must always be some moving cause and connects it with the clause which immediately preceeds, and suggests as an alternative reading τιν' (scil. τινὰ αἰτίαν). Arguing against this interpretation are these considerations: (a) the αἰεὶ becomes superfluous; (b) one is forced to translate ὡς ἔτυχε κινεῖται by the passive 'is moved by chance' which is hardly correct.

In view of these difficulties I would propose to take κίνησις, which is

133-145. Contrary to Demos H. J. Easterling does not see an unbridgeable opposition between 'The theories of causation in the *Timaeus* and in *Laws* X'. *Eranos* 65 (1967), pp. 25-38.

⁴⁶ Goebel, *op.cit.*, 14, proposes to excise it, yet it is unlikely that the clause as it stands now in the manuscripts is a gloss, for it is unintelligible, and nobody inserts something unintelligible. For this reason we should first see if by a minor correction the clause becomes meaningful.

⁴⁷ Bonitz, 491, takes it to be a restatement of line b33, and reads a comma after the first ὥδι. It is, however, hardly satisfactory to have a mere tautology. – Ps. Alexander 690,35 explains: καὶ διὰ τί ὥδι μὲν τάδε κινεῖνται, ὥδι δὲ τάδε, κτλ. Schwegler, 254, reads: οὐδὲ τοῦ ὥδι τὴν αἰτίαν. Zeller: οὐδ' εἰ ὥδι. Diels: οὐδ' εἰ ὥδι ἢ ὥδι.

⁴⁸ Bonitz writes, *op.cit.*, 491, that he does not understand at all the central statement ἀλλὰ δεῖ τι αἰεὶ ὑπάρχειν.

the dominant idea in the preceding lines, as the subject of ὑπάρχειν. We then have to read τιν' for τι and the meaning is: things do not move at random, but there always is some particular movement, as, for instance, a movement in this way by nature, or a movement imposed by force, viz. mind or another cause, in another way. – The clause then sets forth the view that movement must be of a certain kind and be movement to an aim⁴⁹. Aristotle is probably thinking of the random movement of the atoms in atomist theory on the one hand, and of the rotation imposed by mind (Anaxagoras, B 12; Plato), or the movements caused by Love and Strife (Empedocles, B 17), on the other hand⁵⁰. We may in all likelihood assume this because in this chapter he is dealing with the theories of these philosophers.

b36. On the assumption, which is Aristotle's, that the different movements in the cosmos are exercising causal influence the one upon the other and all process in the cosmos forms one system, it is important to know which is the first and most fundamental movement⁵¹. For it makes a great difference whether movement originates as a rather meaningless expression of the imperfection of matter, or whether the first movement is the expression of the desire for contemplation.

In *De caelo* 300b31ff. Aristotle likewise insists on the necessity that there must be a certain order among the various movements (φοραί), thereby intimating that there must be a first. – The expression διαφέρει γὰρ ἀμύχανον δσον is Platonic; it occurs 6 times in the dialogues (*Euthyd.* 275c; *Phaedo* 80c; 95c; *Rep.* 588a; *Laws* 704c; 782a) and has a rhetorical ring. It is not unlikely that in this line Aristotle is freely quoting from Plato, who then would have stressed that it makes a very great difference whether we start our study of nature from matter and chance or from mind⁵².

⁴⁹ I take ἢ ὑπὸ νοῦ ἢ ἄλλου to be connected with enforced movement only, and not to refer to a new kind of movement, as ps. Alexander understands the words, 691,3-5. Aristotle often mentions a distinction between movement by force and movement by nature. – For a parallel use of ὑπάρχειν see *Met.* 985b19.

⁵⁰ On the circular motion which, according to Plato, mind imposes on the celestial bodies, see J. Skemp, *op.cit.*, 92ff.

⁵¹ In *Met.* A as well as elsewhere in the *Corpus* Aristotle assumes the world to be a well-ordered whole with a high degree of unity and purposiveness. See our commentary on 1069a19.

⁵² Cf. Plato's insistence on the distinction between the analysis which starts from the principles and that which goes towards the principles, as stated by Aristotle in *E.N.* 1095a32. The expression is also used in *E.N.* 1147a8. On the importance of the choice of a principle or starting-point, see *E.N.* 1098b7.

b37. ἀλλὰ μὴν κατλ. 'Nor is Plato able to advance as an explanation that what he sometimes takes to be the principle (of movement), viz. that which moves itself'⁵³. – Aristotle also mentions this Platonic theory of the origin of movement in *De anima* 404a21. We encounter it in *Phaedr.* 245c ("it is only that which moves itself that never intermits its motion, inasmuch as it cannot abandon its own nature; moreover this self-mover is the cause and first principle of motion for all other things that are moved" (transl. by Hackforth); 245d (τὸ αὐτὸ αὐτὸ κινεῖν); *Tim.* 46d; *Laws* 895b-c.

The reason why 'that which moves itself' (= soul) cannot be the ultimate principle of movement is that it is 'later', and is engendered together with the heaven, as Plato writes in *Tim.* 34b. Aristotle's criticism is sometimes said to be irrelevant, because it is based upon literalism in the interpretation of the myth, which describes the creation of the soul⁵⁴.

However, the central part of Aristotle's objection is that the soul is 'later'. If we take ὅστερον to be an adjective, the neuter gender apparently depends on the τὸ αὐτὸ ἐκ αὐτοῦ κινεῖν of the previous line. In the second part of the clause this subject is more concretely described as soul⁵⁵.

Aristotle is obviously referring to *Timaeus* 34a-b: "All this, then, was the plan of the god who is for ever for the god who was sometimes to be. According to this plan he made it smooth and uniform, everywhere equidistant from its center, a body whole and complete, with complete bodies for its parts. And in the center he set a soul and caused it to extend throughout the whole and further wrapped its body round with soul on the outside" (transl. by Cornford). On the basis of this text Bonitz, 491, assumes that Aristotle ascribes to Plato the view that the world-soul is 'later than the heaven itself', or, at least, not prior to it. Although *Tim.* 34a-b appears to say so, there is no doubt that Plato's definite theory is that soul is prior to body (καὶ γενέσκει καὶ ἀρετῇ προτέραν καὶ πρεσβυτέραν σώματος, *Tim.* 34c). Hence Bonitz

⁵³ The ἀλλὰ μὴν οὐδέ is progressive, introducing a new stage in the argument, which brings a more important consideration, so that the sense is close to 'not even Plato'. The stress is on Plato, over against the Presocratics. – The antecedent has been incorporated into the relative clause.

⁵⁴ H. Cherniss, *ACrPLA*, 414; G. S. Claghorn, *Aristotle's Criticism of Plato's Timaeus*, 111.

⁵⁵ It is perhaps better to consider ὅστερον an adverb, qualifying the not explicitly mentioned verb, ('is created', 'comes into existence').

as well as others reproach Aristotle with unfair representation of Plato's theory. – Yet the ἅμα τῷ οὐρανῷ makes Bonitz' interpretation very unlikely: soul would be at once later than and simultaneous with the heaven. Hence Ross, 370, understands the text as saying that the soul is later than the disordered movement and therefore cannot be its cause. Ross' explanation is plausible, although one may object that Plato never made the soul the cause of this original disordered movement; rather this is the result of the presence of the Great and Small. Aristotle must have known this, but may not have bothered about this detail: Plato's way of writing is not quite consistent and Aristotle may have selected two statements which exclude each other⁵⁶. Yet, it seems better to understand ὅστερον as an adverb standing in contrast with δεῖ τι αἰεὶ ὑπάρχειν of b35. The verb not expressed probably is γέγονε⁵⁷. Aristotle has in mind that soul itself is not an ultimate reality and therefore cannot be the ultimate explanation of movement. Soul is composed of στοιχεῖα, which are the principles of all things, and thus it can be said to be 'later' than these elements⁵⁸. The intermediate position of soul in the hierarchy of being means that the soul is ontologically dependent on and *posterior natura* to its principles; hence it contains or consists of a certain potentiality.

1072a3. Potentiality is prior to actuality, not absolutely, but in the order of becoming. Cf. *G.C.* 317b16-18; *De anima* 430a20-22; *Met.* 1051a32. *Phys.* 251a8ff. brings an example: prior to actual movement, there must be something capable of being moved.

εἴρηται δὲ πῶς. This could refer to 1071b22-26, yet the words are more likely to be an addition by an editor or reader.

⁵⁶ Certain texts of the dialogues describe the soul as the cause of *all* movements. On the distinction of the αἰσθητός, characteristic of matter, from other movements see also H. Herter, 'Bewegung der Materie bei Platon', in *Rhein. Museum* 1957, 327-347, esp. p. 340.

⁵⁷ For this use of ὅστερον see *Parm.* 153a: in all things that have number the One comes first, the others (collections of units) come later (τὰ δὲ ἅλλα ὅστερον). – It is a remarkable coincidence that Plato makes the αὐτὸ τὸ ζῶον result from the composition of the idea of the One, the primary length, breadth and primary depth (*De anima* 406b16-21; see K. Gaiser in *Idee und Zahl*, *Abh. Heidelb. Ak. d. W. Phil. hist. Kl.* (1968) 2,49ff.).

⁵⁸ This use of ὅστερον (a whole is later than its parts) is mentioned in the *Divisiones aristoteleae* B 65 (cf. *Top.* 141b5; 150a35) and *Met.* 1019a4. – On the intermediate position of the soul in Plato's hierarchy of being, see E. Hoffmann, 'Methexis und Metaxu bei Platon', in *Jahrbuch d. Phil. Vereins*, 45, Berlin 1919, 48-70, pp. 49-53.

a4. Although in a particular class of being potentiality is prior to actuality, from the viewpoint of being in general actuality must be prior. Aristotle advances theories of past philosophers to prove this point. Among the names he mentions (Anaxagoras, Empedocles, Democritus), Anaxagoras comes first because 'mind' which he makes a principle of order and movement, approaches most Aristotle's idea of pure actuality: mind is prior to the present organisation of the world, sets everything in motion and controls everything⁵⁹. Mind is 'by itself' (fr. 12), it exists for ever (fr. 14) and is perfectly homogeneous (fr. 12 *in fine*). Particularly important are the words *ισχύει μέγιστον*, by which Anaxagoras intimates that mind is for ever active (fr. 12). Mind is clearly separate from matter, i.e., the moving force is different from that which is moved⁶⁰.

Empedocles describes Love and Strife as existing eternally (fr. 16): both are spatially extended forces, yet extremely tenuous and invisible (fr. 17). Love and Strife are depicted as for ever active, but not in the same degree, for at times either the one or the other prevails. – The similarity of Love and Strife with Aristotle's Prime Mover is defective: Love and Strife are not ultimate causes (*Met.* 1000b12-13); they produce a particular species of motion, viz. association and dissociation (*G.C.* 333b12-13)⁶¹.

Aristotle now turns to Leucippus who would have anticipated the doctrine of the priority of actuality by his conception of a perpetual movement of the atoms. It is surprising that Aristotle considers the chance movement of the atoms an indication of the priority of actuality. What he probably means is more explicitly stated in *Phys.* 265b17-28: The void is the cause of movement, and so there is a never changing 'something' active in the universe.

a7. These doctrines confirm that actuality is prior to potentiality. Hence there cannot have been chaos or night. – Most manuscripts read *ἄπειρον χρόνον*, a reading which is adopted by Ross and Jaeger. The inconsistency of this apparently smooth text is obvious: (a) no cosmology upheld that there is chaos or night for an infinite time; (b) according to the argument there simply cannot have been anything

⁵⁹ Fr. 12. – Anaxagoras did not make matter depend on mind ontologically: "in the beginning, everything was together" (fr. 1).

⁶⁰ See Guthrie, *HGPh* 2, 276; W. Capelle, 'Anaxagoras', in *Neue Jahrbücher für das klassische Altertum*, 1919, 81-102; 1689-198.

⁶¹ That *νεῖκος* is accompanied by the article, but *φιλιάν* not, is not so unusual. Cf. *Met.* 1049b11; 1081a34-5, etc.

indefinite at the origin of things. – For these reasons it is likely that the text is corrupt. A^b has *χρόνου*. If we read *χρόνος*, and place commas after *ἄπειρον* and *χρόνος*, the text says: Therefore there was no infinite, time, chaos or night⁶². This would then be a criticism of Pythagorean cosmogonies which postulated an infinite from which the world (*οὐρανός*) draws in "breath, time and void"⁶³. In this cosmogony the unit-seed, sown in the unlimited, grew by drawing in and by assimilating this unlimited outside it⁶⁴. – In primitive Greek cosmologies time was felt to be unborn and to exist for ever⁶⁵. To conceive time as a physical reality was not so strange to the ancient Greeks. See *Phys.* 218a33ff., where Aristotle intimates that for the Pythagoreans time is the sphere of the whole. – The term *χάος* occurs in Hesiod's *Theogony* 116: *ἦ τοι μὲν πρότεστα Χάος γένετο*. By this the poet is saying that in the still uniform material of the world a dark gap was produced between heaven and earth. In *Phys.* 208b29 Aristotle understands the term as signifying space, so that he can use it as an illustration of his own theory, but this does not mean that he ignored the original sense of the term. – 'Night' as a first principle only occurs in cosmogonies later than that of Hesiod, and it was probably used as a personification of Chaos⁶⁶. This explains why Aristotle writes *χάος ἢ νύξ*.

a8. *ἀλλὰ ταῦτά κτλ.* The very same world to which we belong, must always have been⁶⁷. Aristotle concedes that change occurs in it, but this remains within certain limits, without affecting the very being of the world. Aristotle explains what is the limited way in which change may occur, viz. *ἡ περίδοξ ἢ ἄλλως*. *Περίδοξ* is commonly understood as referring to Empedocles' cosmic cycles⁶⁸. It is a fact that Aristotle often mentions Empedocles' view of cyclical cosmic process where Love and Strife alternate in domination⁶⁹, but it is more likely that the term here refers to Aristotle's own theory of a certain rhythm in

⁶² One of the Arab translations does not read the word 'time' at all ("fovea autem et nox non sunt infinita"), *op.cit.*, 316 B.

⁶³ *De Pythagoreis* fr. 11 (Stob. 1.18.1). *Phys.* 213b22 gives a slightly different version, unless we read with Diels *πνευμά τε for πνεύματος*.

⁶⁴ Guthrie, *HGPh* 1, 278-9.

⁶⁵ Cf. Diogenes Laertius, I 119 (on Pherecydes): *Ζᾶς μὲν καὶ Χρόνος ἦσαν ἀεὶ καὶ Χθονίη*. See Kirk and Raven, *PPh*, 54-57; Guthrie, *Orpheus and Greek Religion*², London 1952, 69ff.

⁶⁶ Cf. Kirk and Raven, *PPh*, 19-24.

⁶⁷ Ps. Alexander, 691.38: *τὰ αὐτὰ ἄπερ ἔστι νῦν*.

⁶⁸ Bonitz, 493; Ross, II 371.

⁶⁹ Cf. *De caelo* 279b14-16; *Phys.* 250b26 - 251a5, etc.

cosmic process. Such a theory was already conceived by Plato⁷⁰, it is intimated in the *De philosophia* fr. 26 Ross⁷¹, and explicitly stated in *Meteor.* I, 14 (352a30ff.). However, Aristotle does not seem to be sure about this Platonic theory of a cyclical succession of periods, and writes that one might conceive of it in another way (ἢ ἄλλως). This ἄλλως probably refers to the theory of the cyclical succession of generation and corruption as taking place in the central part of the universe while the outer part does not change at all⁷².

a9. εἰ δὲ τὸ αὐτὸ αἰεὶ περιόδῃ κτλ. The subject of the protasis probably is the entire world, because it is in the world that cyclical changes occur. More difficult is the question of what is the something that must always remain the same. Bonitz, 493, Schwegler, 255, and Ross take this reality which remains the same to be the sphere of the fixed stars⁷³. A text of *G.C.* 336a28 (τὸ γὰρ αὐτὸ καὶ ὡσαύτως ἔχον αἰεὶ τὸ αὐτὸ πέφυκε ποιεῖν) where similar terms are used, speaks in fact of the stars. Yet there are three objections against this interpretation: (a) the verb μένειν ὡσαύτως is not well-chosen to signify the ever revolving sphere of the stars; (b) it is difficult to see how the apodosis logically follows from the protasis⁷⁴; (c) a13-16 seem to point to the First Mover, as we shall see. – In view of this I propose to consider the conditional clauses of a9-12 as two possible points of view from which one may depart: after having done away with primitive cosmologies in which the infinite or chaos is assumed to be prior to our world, Aristotle now wants

⁷⁰ Cf. his use of the terms 'the Great Year' in *Polit.* 273a; *Tim.* 39d. The notion is archaic, as Heath points out, *Aristarchus*, 171ff.

⁷¹ "Replicatione quadam". However, see M. Untersteiner, *Aristotele. Della Filosofia*, Rome 1963, pp. 257ff., for a survey of other interpretations of this difficult text.

⁷² J. Paulus, *op. cit.*, 397, n. 2 gives a similar interpretation.

⁷³ Ross, *Metaphysics* II 371: "The general upshot of this passage is that the motion of the sphere of the fixed stars, which is parallel to the equator and therefore unchanging relatively to the earth, is the cause of the permanence in the history of the world, while the ecliptic motion of the sun which brings it now nearer to, now farther from us, causes the alternation of birth and death." Schwegler, followed by Zeller³ (II 2, 378 n. 3) excises περιόδῃ in 1072a10. In our interpretation of the text the term has a definite function, and must be retained.

⁷⁴ One might say that, if there are regularly returning periodical changes, part (τι) of the world must stay free of them, and so become the ground of the very regularity of the process. It is a fact, however, that Plato thinks that even the stars change, and that he ascribes the task of preserving the continuity or the process to an external agent.

to argue that there must be an ever working actuality as the primary ground of the world. When one conceives of the entire world as being subject to a cyclical process⁷⁵, there must be a metaphysical ground distinct from the world, and always the same. Cf. 1071b19-20; 25-26 and our commentary⁷⁶. When one assumes generation and corruption to take place in the sublunar region, there must be another being or part of the universe, which is the cause of these changes by acting in different ways. The principle behind this argument is that that which is for ever the same, causes the same effect, while that which changes causes changing effects⁷⁷.

a12. We then face the question of how this cause happens to be in different states. One of these states will be the natural state for this cause, the other states will be given to it by an outside cause (ὥδὲ δὲ κατ' ἄλλο)⁷⁸. This outside cause could be either any outside cause or the (absolutely) first. It must be the latter.

a14. The reason why it must be the latter is stated in this line. The interpretation differs according to whether one reads αὐτῷ with the manuscripts, Bonitz and Christ, or αὐτῷ with ps. Alexander, Ross and Jaeger. Ross who reads the entire section in concrete terms (the fixed stars and the sun would be meant) thinks that the reading αὐτῷ is im-

⁷⁵ Plato seems to have allowed for certain changes in the positions of the stars relative to each other, and thus have admitted periodical change for the entire world. See *Tim.* 40b-d and Heath, *Aristarchus*, 179-180.

⁷⁶ The idea is very clearly expressed in *De caelo* A 9: beyond the outer heaven there is being which never changes and is for ever; it contains all time and endlessness (τὸ πάντα χρόνον καὶ τὴν ἀπειραν περιέχον τέλος, 279a26-27). In writing that there must be something which contains in itself all changes and process Aristotle took up an idea which had always been present in Greek thought (Anaximander's Indefinite contains everything and is a principle, *Phys.* 203b11; for Democritus the surrounding all contains the animal bodies and gives them movement, *De anima* 404a10). On the influence of this view on later tradition see W. von Leyden, 'Time number and eternity in Plato and Aristotle', *Philos. Quart.* 1964, 35-52, p. 36. Cf. Plutarchus, *De E ap. Delph.* 20, 939 A 8f.; Plotinus, *Enn.* III, 7,15-23.

⁷⁷ The argument is abstractly formulated, but *de facto* the causality of the sun exhibits the characteristics here described. The *De gener. et corr.* II 10 explains in greater detail how the sun is causing generation and corruption when pursuing its path along the ecliptic, which brings it now nearer to the earth, now removes it from it. This view is an obvious inference from observation and had already been formulated by Plato, in as far as Plato called the sun the cause of becoming (*Rep.* 509b) and made its movement dependent on the Different (*Tim.* 36b-d).

⁷⁸ Aristotle assumes that a thing can only have one natural activity, *in casu* causality. Cf. Plato, *Rep.* 352d - 353c; *Protr.* fr. 6.

possible, because it would mean that "the sphere of the fixed stars causes its own motion and that of the supposed other". However, in Aristotle's view, the motion of the sphere of the fixed stars is not self-caused, but caused by the First Mover. Therefore, Ross concludes, we should read αὐτῷ and take it to refer to the sun.

Ross and those who follow him are forced to take this line of interpretation because they think that the passus only deals with concrete moving causes, viz. the heavenly spheres. The disadvantage of such an interpretation is that it does not fully agree with the wording of the text, and makes the text yield the rather meager conclusion that there is an ever revolving heaven. After having reached this conclusion Aristotle, so they say, would exclaim in a18: "What need, then, to seek other principles?"

We can avoid these difficulties by assuming that the text is a piece of abstract reasoning, which departs from the fact that there is generation and corruption. To account for this a cause is needed which acts in different ways; however one cause has only one natural causality; if it also exercises a different causality it must receive it from another agent. This other would be the cause of its own, natural activity (αὐτῷ), and also have a second causality. But this seems impossible, (for everything has one natural causality). Only the absolutely first cause, containing in itself whatever there is in the genus of causality, has a sufficiently wide causality to bring about those activities which the spheres or celestial bodies have in addition to their natural movement. In fact, the various natural spheres and bodies each have a different activity (τοῦ δ' ἄλλως ἕτερον), while the First Agent radiates an ever same activity which, together with the specific activity of each sphere or elementary body, causes eternal variety (τοῦ δ' αἰεὶ ἄλλως).

In this explanation the ἄλλο δεῖ εἶναι of line a11 *de facto* still applies to the sun, although the argument itself is developed in abstraction from any concrete application.

a17. δηλονότι is frequently used as an adverb, but the position at the end of the clause is unusual.

a18. οὐκοῦν οὕτως κατλ. Movements in nature occur according to the types of causality outlined above. The terms καὶ ἔχουσιν αἱ κινήσεις indicate that in the above there was question of causality itself rather than of its result, movement, and thus confirm our interpretation.

According to the metaphysics of the chapter there must be a ground

for the sameness and regularity which we observe in the world. Furthermore, different classes of things have one single operation or movement peculiar to them. If their movement shows variation, a cause other than the thing in question, is responsible. This leads to the assumption of a supreme cause. Aristotle does not analyse at all the nature of movement (as he does in the *Physics*) nor resort to the principle that only actuality can reduce to actual being that which is potentiality. The ontology of the last passus appears to be close to Plato's doctrine of the Same and the Different: the supreme principle, rather than being the Mover of the first heaven, is the cause of the movements which the spheres and bodies have in addition to their own movement.

The last section (1072a9-18) interrupts the sequence of the argument: Aristotle is looking for the cause of movement and rejects the Platonic explanation of movement, and even more the early cosmogonies. His basic principle is that actuality is prior to potentiality (a9)⁷⁹.

Apparently the terms περιῶδω ἢ ἄλλως of a8 induced the editor to interpolate a text (a9-18) which he had found between the papers of Aristotle in possession of the School, and which seemed to provide an explanation of these terms.

⁷⁹ H. von Arnim, *Die Entwicklung der Gotteslehre*, 59-63, suggests that a10-18 have been taken from *Phys.* 259b32 - 260a19. There are indeed certain similarities in wording and thought, yet I prefer to consider a10-18 as dealing with a more abstract theory than 259b32 - 260a19. In the latter passage a medium is assumed to exist between the unmoved and the moving things, whereas in the text of chapter six the movement received from the first principle appears to form one compounded movement with that of the moving body.

CHAPTER SEVEN

Because certain things are moved, others move and are moved, there must be being which moves without being moved. – The way in which this eternal being, which is actuality, moves may be compared to the way in which the object of desire moves, viz. as being loved. The unmoved mover is not subject to any change and it exists of necessity. On such a principle depends the universe. It is for ever active in the happiest of lives, viz. a life of contemplation. Thus it is itself continuous and eternal life. Those philosophers who think that the good is not a first principle, are wrong.

Summing up Aristotle says that there is an eternal being, without magnitude and free from change.

The argumentation of chapter seven is subtle, and for the greater part implicit; rather than to depart from an analysis of movement as in *Phys. VIII*, Aristotle bases his demonstration on considerations dealing with formal causality.

1072a19-21. ἐπεὶ δ' οὕτω τ' ἐνδέχεται, viz. since actuality is first, the above mentioned difficulties may be solved. – ταῦτα probably refers to the theories mentioned in 1071b31-1072a3. A philosopher who does not admit Aristotle's theory of actuality, must inevitably resort to an explanation which holds that night, confusion or not-being precede the cosmos.

ἐκ νυκτός. See the commentary on 1071b27 and 1072a8; on the ὁμοῦ πάντων see 1071b28. – In the preceding chapter Aristotle did not mention the view according to which the world is derived from not-being. It is possible that the reason why here he added καὶ ἐκ μὴ ὄντος is that he wanted to create a climax: in the last analysis, what the opposite view asserts is that the world is derived from not-being. However, Aristotle may also have had some definite doctrine in mind, as for instance that of the void in atomism¹. 'Not-being' had become a

¹ In chapter six Aristotle emphasised that aspect of atomism, which consists in the hypothesis that there is a primary actuality.

technical term with Parmenides, who faithful to the Pythagorean way of explaining reality by means of contraries, constructed an opposition between being and not-being². The Sophists frequently used the term in their discussions³; Plato, or certain members of the Academy, called the second principle τὸ μὴ ὄν⁴.

a21-23. In *Met. A* Aristotle does not present a proof of the existence of eternal circular movement⁵. – The affirmative καὶ ἔστι is the counterpart of, and an answer to the question εἰ ἔστι. The terms αἰὲν κινούμενον κίνησιν ἀπαυστον evoke *De caelo* I 9, 279b1 and II 4, 288a10-11. Whereas in the first chapters of the *De caelo* this eternity is deduced from the fact that circular movement has no contrary, in this passus the argument, in as far as it appears in the text, is just the opposite: there is ever actual movement, and this is circular. The reason, not expressed, is that only circular movement can be perpetual.

a22. This inference is an a priori conclusion, yet that there is a never ending circular movement may also be verified by observation. The pair λόγῳ-ἔργῳ⁶ indicates the opposition between argument by (pure) reason and observed facts. Cf. *G.A.* 729b8-9: κατὰ τε δὴ τὸν λόγον οὕτω φαίνεται καὶ ἐπὶ τῶν ἔργων. The use of this antithesis goes ultimately back to Parmenides who for the first time in the history of European philosophy opposed reason to sensitive knowledge⁷.

a23. ὥστ' αἰδῖος ἂν εἴη ὁ πρῶτος οὐρανός. ὥστε, rather than being consecutive, introduces a clause which summarizes the previous argument.

ἔστι τοίνυν τι καὶ ὁ κινεῖ. ὁ is subject (Bonitz, Ross), not object of κινεῖ (Alexander, Schwegler). The ἔστι corresponds with that in a21. The existence of a mover is implied in the existence of movement and a

² B 2,9; 7,1; 8,36. – According to Aristotle's account of this theory in *G.C.* 318b6 and *Met.* 986b27-31 Parmenides distinguished between two opposite principles in the Way of Seeming, viz. hot and cold (i.e., fire and earth): the hot is that which is, the cold that which is not.

³ Sext. Emp., *Adv. Math.* VII, 65, mentions a treatise by Gorgias entitled Περὶ τοῦ μὴ ὄντος.

⁴ *Phys.* 201b16-26 (*Met.* 1066a11); Eudemus ap. Simplicius, *In Phys.* 431,8-16.

⁵ In the interpretation of Bonitz and Ross 1072a9-17 could be considered as giving such a proof. – *De caelo* I, cc. 2-4 give a good idea of the central place of the theory of eternal circular movement in Aristotle's cosmology.

⁶ Slightly different formulations of this expression occur in the *Corpus*. Cf. Bonitz, *Index* 435a45 ff. An analogous expression is εὐλογον... κατὰ τὴν αἴσθησιν.

⁷ W. K. C. Guthrie, *HGrPh* II 25.

moving body⁸. Aristotle does not yet say who this mover is, or where he is. This will be stated in the next lines. The statement only intends to point out that movement requires a mover.

a24-26. The upshot of what Aristotle says in these two lines is that because there is something which is moved (without moving others) and something which is both moving (others) and moving itself, there must be an unmoved mover. – In the present state of the text it is very difficult to say what is the value or foundation of this kind of argumentation. This is the more regrettable, since the lines apparently are the very basis of the doctrinal assertions in the rest of the chapter. I shall first draw up a list of the various explanations which have been advanced, and then add a few suggestions which may be of some help to understand the text.

(a) Averroes, *op. cit.*, 317 L M (Freudenthal, *op. cit.*, fr. 28), quotes Alexander as taking the text to say that if a thing is composed of two elements, one of which can exist by itself, the other will also be able to do so ("possibile erit etiam alterum esse per se"), except in the case of the composition of substance and accident. Averroes says that another restriction must be made: the composing elements must be the extremes in a relationship of opposition. – Averroes is undoubtedly right when he politely remarks that this explanation does not seem to follow the text too closely. – It rather reminds one of Alexander's theory of mixture and composition.

(b) ps. Alexander, 693, 23-26, has little to say: the terms of the first part (μέσον included) must be read together and καὶ τὸ κινούμενον μόνως should be understood as being implied by the argument. – Jaeger has a similar suggestion in his apparatus, based on *Phys.* 256b21: ἐπεὶ δὲ (τὸ κινούμενον καὶ οὐ κινῶν ἔσχατον) κτλ.

(c) In Themistius' paraphrase, 10, 17-19, μέσον is dropped: cum igitur detur mobile et idem movens et mobile tantum modo non movens, necessario datur et movens non mobile. – It would seem that ps. Alexander, 693, 23-26, derived his suggestion on how to understand the text, from Themistius's paraphrase. Bonitz, 495-6, abandoning the correction he had proposed earlier⁹, thinks that the original text must have been ἐπεὶ δὲ τὸ μὲν κινούμενον καὶ μὴ κινῶν τὸ δὲ κινούμενον καὶ κινῶν, καὶ τρίτον τοίνυν ἔστι τι ὃ οὐ κινούμενον κινεῖ. – The explicit

⁸ On the use of the question εἰ ἔστι and of the affirmative ἔστι see M. Mignucci, *La Teoria aristotelica della scienza*, Firenze 1965, 59.

⁹ *Observationes Criticae in Arist. Libros Met.*, Berlin 1842, 125.

formulation of the argument would probably have to be in this way, as can be verified by comparison with *Phys.* 256b20 and *De anima* 433b15, yet the text of the manuscripts has καὶ μέσον.

(d) Schwegler, 258, shows that it is impossible to read καὶ μέσον τοίνυν ἔστι τι ὃ οὐ κινούμενον κινεῖ, for the unmoved Mover is not a μέσον, and proposes Bonitz' earlier correction: ἐπεὶ δὲ τὸ κινούμενον καὶ κινῶν μέσον, ἔστι τοίνυν τι κτλ.

(e) Ross mentioning a not very promising correction by Jackson, who reads καὶ μὴ, ὄν for καὶ μέσον, points out the defects of the text, in particular, that a clause cannot begin with τοίνυν and suggests to excise the καὶ before μέσον, but does not attempt to reconstruct the text. He understands the text as follows: because that which moves being moved itself is an intermediate, there must be something which moves while not being moved.

It is perhaps not possible to reach a solution which is entirely satisfactory, but I think that at least some progress towards a solution can be made. Contrary to *Physica* VIII the chapter does not present a well elaborated argument to prove the existence of an unmoved Mover (unless we assume that a considerable number of lines was dropped). Moreover, judging from the context, the argument is based upon a specific theory concerning the ontological structure of reality, and not upon an analysis of moving and of being moved. If the ontology of the chapter is mainly centered around the analysis of formal causality, the term μέσον is likely to signify the intermediate in the hierarchy of being, viz. that which shares in the properties of the supreme principle as well as in the nature of the lowest being. Plato made soul and mathematical objects intermediates between the ideas and sensible things¹⁰. This view appears to have been further elaborated by Xenocrates, who said that to be a mean between the forms and the things which are given a form is the very definition of soul and its property¹¹. Soul is composed of the Same and the Different, which are principles of resp. rest and of becoming, of moving and being moved¹².

¹⁰ The *Timaeus* describes this intermediate position of the soul. See E. Hoffmann, *op. cit.*, 49-53. On the position of mathematical objects see *Met.* 1090b5 - 1091a29, and K. Gaiser, *Ungeschriebene Lehre*, 89-104.

¹¹ Simpl., *In De anima*, 30,4-6 (fr. 64 H): ὁ τῆς ψυχῆς οὗτος λόγος... τὴν μεσότητα αὐτῆς... καὶ τὸ ἴδιον αὐτῆς ἐνδείξασθαι. As Prof. Kraemer pointed out to me, this text cannot with certitude be ascribed to Xenocrates.

¹² Plutarchus, *De animi procr.* 1, 1012d (fr. 68 H 18-23): τοῦτον (scil. τὸν ἀριθμὸν τοῦ ἐνὸς ὁρίζοντος τὸ πλῆθος) δὲ μήπω ψυχὴν τὸν ἀριθμὸν εἶναι· τὸ γὰρ

Assuming that Aristotle, at least for some time, professed similar views, the argument of a 24-26 would insist on the fact that there is an intermediate being, composed of two principles, or showing two contrary properties; hence it follows that these principles or properties exist outside the 'mixture' in a state of purity¹³. Aristotle himself is likely to have assigned this role of intermediate to the first heaven rather than to an immaterial soul, for in the *De philosophia* and the *De caelo* there are unmistakable indications of a doctrine according to which the first heaven is a body for ever alive and moving, endowed with mind.

On this assumption we may leave the text as it is. The *καί* before μέσον would mean 'in fact', 'indeed'¹⁴: "since that which is moved and moves is in fact intermediate". – The following *τοίνυν* is, as many commentators have pointed out, impossible in its present position. Rather than excising or transposing it, we should consider it a corrupt reading. The original may have been *στοῖχου*. This term occurs only sporadically in the *Corpus*, and then it has the sense of row and series¹⁵. The frequent use of *συστοιχία* (and *σύστοιχος*) as signifying a line of predication and the side lines of a scheme of division, makes it plausible that a simple series (the First Principle, the intermediate, perishable being) was called a *στοῖχος*¹⁶.

The occurrence of the term μέσον may also be explained in a slightly different way: when Aristotle speaks of movement, he repeatedly distinguishes between three aspects of it, e.g., in *De anima* 433b 13 he writes: ἐν μὲν τὸ κινουῦν, δεύτερον δ' ὃ κινεῖ, ἔτι τρίτον τὸ κινούμενον. A similar statement is made in *Phys.* 256b14. Cf. also *M.A.* 700b36; *P.A.* 703a4; *G.C.* 318a4-6; 312a13-14, where the point of view from which the division is made is the question of which is the cause of movement. Even if we assume that something analogous is

κινητικὸν καὶ τὸ κινητὸν ἐνδεῖν αὐτῷ· τοῦ δὲ ταύτου καὶ τοῦ ἑτέρου συμμιγνέντων, ὧν τὸ μὲν ἐστὶ κινήσεως ἀρχὴ καὶ μεταβολῆς τὸ δὲ μονῆς, ψυχὴν γεγονέναι, μηδὲν ἔχον τοῦ ἰστάναι καὶ ἰσθασθαι δύναμιν ἢ τοῦ κινεῖσθαι καὶ κινεῖν οὖσαν.

¹³ It is a principle of Platonic ontology that the part is prior to the whole. Cf. Aristotle's *Topics* 150a35.

¹⁴ On this sense of *καί* in the *Corpus* see W. J. Verdenius and J. H. Waszink, *Aristotle on Coming-to-be and Passing-away*, Leiden 1946, pp. 3-5.

¹⁵ Cf. *Met.* 1092b34. See H. Diels, *Elementum*, p. 60 (soldiers arranged in either file or rank form a *στοῖχος*; Cf. the Oath of the Ephēboi, *Poll.* VIII 105).

¹⁶ This explanation is to a certain extent analogous to that of Alexander as quoted by Averroes.

meant in this text, there is no complete parity, for the division is here based upon the ontology which we mentioned above¹⁷.

a25. δὲ οὐ κινούμενον κινεῖ. The notion of a mover who moves without being moved himself, is a daring innovation. Until Aristotle's days movement had been conceived largely in terms of action and reaction¹⁸, and in the *Corpus* we find this theory upheld for all movers, except for the first¹⁹. The conception of an Unmoved Principle was facilitated by Plato's later theory of principles: the principles, although unchangeable, were nevertheless said to be active (at least as formal causes) on the different levels of the hierarchy of being. Yet diametrically opposed to Aristotle Plato upholds the view that the origin of all movement is the change of the movement itself which moves itself; ἡ τῆς αὐτῆς αὐτὴν κινήσεως μεταβολή (*Laws* 895a).

That the Unmoved Mover is ἀίδιον, οὐσία and ἐνέργεια is apparently concluded from the fact that the first member of a series must be at least as perfect as the next member²⁰.

a26. κινεῖ δὲ ὥδε κτλ. A way of moving in which one remains unmoved oneself, is characteristic of objects of desire and thought. – ὥδε refers to what precedes²¹. On the ὁρεκτόν as a cause of movement see the Introduction IV. The term here does not signify the object of the desire of the irrational part of the soul, but the object of desire in general. Bonitz, 496, following ps. Alexander, 693, 32ff., and Themistius' paraphrase, 18,21ff., adopts the reading of the *Codex Laurentianus*. He makes a full stop after ὁρεκτόν and reads καὶ τὸ νοητόν κινεῖ οὐ κινούμενον. With regard to the doctrine of the entire section this reading is certainly possible, yet the manuscripts give only scant support to κινούμενον²². Bonitz is right in saying that not every νοητόν is ὁρεκτόν and *vice versa* (for instance, mathematical entities are not desirable), but that is all the more reason to connect τὸ νοητόν with τὸ

¹⁷ At the end of the chapter it becomes plain that Aristotle is mainly thinking of local movement.

¹⁸ Cf. Alexander, *In Met.* 36,21-2, on collision as a determining cause of the movement of the atoms according to Democritus's theory.

¹⁹ *G.C.* 324a33-34; *G.A.* 768b19-21.

²⁰ When in *Tim.* 37c-e Plato emphasizes the distinction between the changing world of phenomena and the eversame being of the eternal model, he uses the terms ἡ ἀίδια οὐσία to qualify the latter. – It is Aristotle's innovation to call this first Being activity.

²¹ On this use of the adverb see Kühner-Gerth, I, 646-647.

²² According to Walzer, *op.cit.*, the Arab translation of Ustâth has κινούμενα, but the version of Abû Bishr Mattâ the singular form.

ὁρεκτόν and to read a semicolon after it. In conscious opposition to Eudoxus Aristotle wants to say that the First Mover is also a supreme intelligible: the object of desire which is at the same time an object of thought belongs to a particular class of being; it is neither mere pleasure nor any of the material things *qua* material²³.

a27. τούτων τὰ πρῶτα τὰ αὐτά, the first among the objects of desire and intellect are the same. The term τὰ πρῶτα intimates that Aristotle holds that there is a hierarchy of such objects, and 'the first' are obviously ontologically primary things²⁴. Elsewhere in the *Corpus* supra-mundane principles are mentioned which evoke Plato's ideas. "It is clear that there is neither place nor void, nor time outside the heaven. Hence the things there are of such a nature as not to occupy any place, nor does time age them, nor is there any change in any of the things which lie beyond the outermost motion; they continue through their entire duration unalterable and unmodified, living the best and most self-sufficient of lives"²⁵. Likewise *Met.* 982b2 says that the first things and the causes are most knowable.

It should be stressed that to Aristotle the supreme degree of being is also eminently knowable. There is no trace in his *Metaphysics*, if we except Book α, of the doctrine which holds that God is above human knowledge²⁶.

This passus of chapter seven is at the background of Theophrastus' *Metaphysics* 4b18ff. Theophrastus argues that a reality prior and superior to the objects of mathematics can more easily be credited with imparting life and motion to things. Yet it must be made plain whether this superior reality is single in number, in species or in genus.

a27. ἐπιθυμητόν κτλ. These lines serve the purpose of explaining how it happens that we *desire* the objects of knowledge. Aristotle evokes the Academic doctrine of a dual desire in man, viz. a desire which follows upon thought and insight, and a desire which is consequent

²³ Schadewaldt drew attention to the νοητόν of a26 and thinks that by means of this term Aristotle underlines the difference between his view and that of Eudoxus, according to whom the desire for pleasure is a basic element of all things (*Satura, Otto Weinreich dargeboten*, Baden-Baden 1952, 103-129).

²⁴ First principles in the field of knowledge only are not objects of desire.

²⁵ *De caelo* 279a18ff. See my *Aristotle's Cosmology*, p. 29.

²⁶ See H. A. Wolfson, 'The knowability and describability of God in Plato and Aristotle', in *Harvard Studies in Class. Philol.*, 1947, pp. 232ff. To the objection stated in *Parm.* 133b-134c that to be known supposes passivity and to be moved, Aristotle replies in *Met.* 1021a29 that the relation of knowledge to the knowable is different from that of the agent to the patient.

upon the perception of perishable things. The object of rational desire is called βουλευτόν, that of the sensitive part of the soul ἐπιθυμητόν.

The distinction between the real good and the apparent good is of Platonic origin. Plato, opposing the Sophists who said that people act driven by desire of what appears to them as a good, asserts that man, when doing wrong, does not really 'will' that which he is striving after. What he really wants is his own happiness²⁷.

Aristotle takes up this distinction between man's apparent good and real good in *E.N.* 1113a15-b and *E.E.* 1235b25-28: "The desired and the wished for is either the good or the apparent good. Now this is why the pleasant is desired, for it is an apparent good; for some think it such, and to some it appears such, though they do not think so"²⁸.

Aristotle uses the term καλόν, and not ἀγαθόν. The reason for this could be that he is speaking of the object of contemplation and of ontological perfection rather than of the object of moral activity²⁹.

a28. βουλευτόν δὲ πρῶτον τὸ ὃν καλόν. Bonitz, 497, compares this line with those texts where Aristotle says that nature strives for the best, as *G.C.* 336b27, *P.A.* 687a15, *Inc. A.* 704b15. There is, however, an important difference, viz. in the latter texts 'the best' is the best in the different genera, whereas here it denotes the highest being.

a29. ὁρεγόμεθα δὲ διότι δοκεῖ. This line establishes the priority of the intellect over desire. In *E.N.* 1113a2-14 Aristotle compares the parts played by βούλευσις and ὁρεξις to the roles of the kings and the people in the Homeric society: the kings decide on a policy, for which they solicit popular consent³⁰. - In this clause δοκεῖν does not mean 'to seem (to be)', but 'to appear to the mind'. The text asserts that the

²⁷ *Gorgias* 466b-468d. The term βούλησις denotes this fundamental desire. Cf. J. Gould, *The Development of Plato's Ethics*, 47ff. Although the term was sometimes used in a broader sense, eventually the restricted sense prevailed. Cf. *Def. plat.* 413c. The term ἐπιθυμεῖν usually denotes desire of what is pleasant (*E.N.* VII 7), but sometimes it may mean desire of suprasensible things (ἐπιθυμεῖν μαθήσεως).

²⁸ Cf. also *M.A.* 700b28 (where the ἡδύ is said to be an apparent good) and *De anima* 433a28.

²⁹ *M.A.* 700b25f. and *Met.* 1078a31 make such a distinction, although it is a fact that the terms are often miscellaneously used.

³⁰ Cf. H. M. Joachim, *The Nicomachean Ethics*, p. 103; Gauthier and Jolif, *L'Éthique à Nicomaque* II 192-193. On Plato's view see *Laws* 779e.

noûs grasps what is man's true good and that desire is consequent upon this insight³¹.

a30. ἀρχὴ γὰρ ἡ νοήσις, scil. of desire. — In the *De anima* III 10 Aristotle makes a distinction between the theoretical and the practical intellect, and argues that not the former but only the latter sets things in movement, in as far as it is moved itself by the object of desire. In A 7 this distinction does not yet occur and the text makes less of the role of the appetitive faculty than chapter 10 of the *De anima* III.

νοῦς δὲ ὑπὸ τοῦ νοητοῦ κινεῖται. In Plato's *Sophistes* 248d-e 'to be known' is said to imply 'being moved' (κινεῖσθαι), and Aristotle, although maintaining that the process of knowledge is different from passive reception, sometimes uses the term κινεῖν to signify the influence of the object on the organ or cognitive faculty³². The capacity to be affected by the object is based upon a sort of community between it and the mind. Being and intelligibility precede intellect and thought, and the thinking subject is dependent on the object³³.

νοητὴ δὲ ἡ ἑτέρα συστοιχία καθ' αὐτήν. The term συστοιχία is likely to have come into use in the Academy where diaeresis was one of the most important means of analysis. Its meaning is that of a series of terms, as, e.g., the line of the good in the Pythagorean table of opposites, and a line of predication in which each term is wider than that which comes under it³⁴. In a diaeresis the term signifies in particular the main line of the division³⁵. In this context συστοιχία appears to have the sense of the line of terms which express positive perfections in a table of contrary terms. Such a table is not only used by the

³¹ Cf. *De anima* 433a26 and K. v. Fritz' excellent article on noûs in *Class. Philol.* XL (1945), 223-227 (to the Greeks noûs means an intuition of reality which has a certain inerrancy).

³² See, for instance, *De anima* 426b31.

³³ With regard to Plato this may be deduced from the *Phaedrus* (the soul nourishes itself by the contemplation of the objects), and *Rep.* 490b, 517c. Cf. A. Diès, *Autour de Platon*, p. 561.

³⁴ See Ross' survey in his transl. of *Metaph.* A 5; Diels, *Elementum*, p. 66 and W. Vollgraff, in *Mnemosyne*, 1949, 90-91.

³⁵ If we take the division of *Top.* 143b1 as an example we get:

living beings	
with feet	— without feet
two-footed	— more-footed
featherless	— with feathers.

Pythagoreans, but also has a place in Aristotle's philosophy: throughout the *Corpus* we find scattered texts which uphold that reality is compounded of contraries, as, for instance, *De bono* fr. 5 Ross; *Met.* 1004b27ff.; 1005a3 (πάντα γὰρ ἡ ἐναντία ἢ ἐξ ἐναντίων, ἀρχαὶ δὲ τῶν ἐναντίων τὸ ἐν καὶ πληθός); 1055b28. In other texts, as in A 10, 1075a28-30, this is denied, yet 1072a30 is best explained when read against the background of such an ontology, for all the terms coming under the One, the Determinate and Limit are knowable in themselves, whereas what comes under the Dyad is not by itself knowable³⁶. In this chapter Aristotle not only did not reject this scheme, but completed it by introducing into it ἐνέργεια and its opposite κίνησις³⁷.

Aristotle says that one of the columns of opposites is καθ' αὐτήν object of thought. The expression καθ' αὐτό already occurs in Parmenides B 8,29, where it excludes dependence on others and denotes strength and perfection of being³⁸. In the *Corpus* it is frequently used to signify the 'belonging *per se*' to a subject, and also here it could have this meaning, viz. 'is knowable in itself'. However, I would prefer to see in it a qualification of ἡ ἑτέρα συστοιχία, so that the translation becomes: 'the line of contraries *per se*' is knowable³⁹. These contraries are knowable because they signify things which are themselves an essence⁴⁰.

a31. καὶ ταύτης ἡ οὐσία πρώτη. Of the line of beings *per se* οὐσία is the first class, and in this class being which is simple is first. — To understand this line we must recall that in the Platonic scheme of being both οὐσία and those qualities which determine the generic essence of things were ranked in the class of things *per se*. This follows not only from the fact that these qualities have a determining influence upon the generic essence, but also from *Met.* 1089b23: (Plato) should not confine his ingenuity to "things in the same category (and examine) how substances and qualities are many." Now, in the section which preceded, Aristotle blamed Plato for not explaining how the beings which are not *per se* can be many. It would, then, follow that the qualities

³⁶ In the commentary on chapter one I drew attention to the traces of this Platonic division of reality in the text.

³⁷ Cf. *Phys.* 201b24 - 202a3.

³⁸ See K. Deichgräber, *Parmenides Auffahrt zur Göttin des Rechts*, Abh. Mainz. Ak. 1958, geistes u. soz. w. Kl., Nr. 11, pp. 684-5.

³⁹ The Platonists called the line of terms coming under the determinate καθ' αὐτό. Cf. the fragm. of Hermodorus, ap. Simplicius, *In Phys.* 247,30 - 248,15; Aristotle, *Divisiones* fr. 1,2 (Ross pp. 101-102); *Met.* 990b21.

⁴⁰ Cf. *Protr.* fr. 5 Ross (p. 32,15) Düring B 33; *Met.* 999b2; 1031b20-21.

mentioned here belong to the class of beings *per se*. – Aristotle points out that in this class of beings *per se* οὐσία is absolutely first.

a32. καὶ ταύτης ἡ ἀπλῇ καὶ κατ' ἐνέργειαν. The repetition of καὶ ταύτης is somewhat harsh, and that is probably the reason why some manuscripts omit it. The words give an excellent sense, however, if we take them to indicate the class of οὐσία in which simple being is first.

We encounter the term ἀπλοῦς in Anaxagoras' theory of mind (*De anima* 405a16): except mind all things are composites. The atomists made also use of it when they asserted that simple atoms are the ultimate elements of reality⁴¹. In Plato's ontology the term is not so prominent, perhaps because of the fact that he believed even the ideas to be composed of the One and of the Dyad. Yet a few significant texts occur. For instance, in *Rep.* 380d and 382e God is said to be ἀπλοῦς. The One itself is ἀπλοῦς and things close to the One share in its simplicity⁴².

Aristotle considers the term an attribute of first being, either of absolute, first being, or of first being in a genus. Cf., for instance, *Protr.* fr. 6 Ross (= Düring B 64); *De caelo* 269b4. He often speaks of 'simple (incomposite) substances', but it is not always clear what he means⁴³. In *Met.* 1027b27 τὰ ἀπλᾶ are connected with τὰ τί ἐστιν. The term probably has the connotation of the immaterial beings. In *E.E.* 1217b31 Aristotle gives as examples of οὐσία mind and god, probably because both are immaterial and thus simple and primary. – In *Met.* 1015b12 the primary being is said to be simple, and in 1059b35 that which is simpler is asserted to be more of a principle than the less simple. In 1073a6 the eternal being is said to be characterised by indivisibility and the absence of parts. – The words κατ' ἐνέργειαν remind the reader that Aristotle is not returning without more ado to Plato's theory of the One, but proposes his own doctrine.

a32. ἔστι δὲ τὸ ἐν κτλ. In Plato's philosophy the One and the simple were intimately associated⁴⁴, but Aristotle here abandons this part of Plato's ontology, since he is to replace the One by the ever active Νοῦς: the one is no more than a unit and a principle of number, but to be simple is a characteristic of substantial being. – One might also take

⁴¹ A 135.

⁴² *Met.* 989b16; 1059b35. For a detailed discussion see H. J. Kraemer in *Philologus* 110 (1966), 35ff., pp. 51ff.

⁴³ Cf. Ross, *Metaphysics* II 276.

⁴⁴ Cf. *Met.* 989b16: "From this it follows that he must say the principles are the One (for this is simple and unmixed), and the Other".

this line to be a casual remark (Ross, 376), or a gloss added in order to prepare the way for the doctrine of 55 movers, which are all simple substances. Cf. ps. Alexander, 695,10-14, and Bonitz, 498.

Plato used the doctrine of measure to describe the causality of the principles and the process of knowledge: the One determines the Great and the Small by imposing a limit upon it⁴⁵, so that the divine may be said to be the measure of all things⁴⁶; science has the task to search for the mean between excess and deficiency. This mean is the true essence, αὐτὸ τὰκριβές. To measure a thing signifies to bring to light its essence and the elements of which it is composed, and a thing's measure is its form or *logos* which imparts formal perfection. – In Xenocrates' philosophy this Platonic doctrine of measure seems to have survived⁴⁷. Aristotle also repeatedly mentions it, although he himself mainly uses the concept of measure in the study of quantity⁴⁸.

a34. ἀλλὰ μὲν κτλ. The particle introduces a new step of the argument in a spirit of understanding for the Platonists (after the divergent view stated in a32-34). The καλόν is the good which is the object of man's strivings⁴⁹; it is not an abstraction but an aspect of being. We must probably understand καὶ τὸ δι' αὐτὸ αἰρετόν as 'that is, that which is in itself desirable'⁵⁰. – Aristotle combines the object of thought with that of desire, and for this reason καλόν is a better term than 'good', since it denotes something which is the object both of thought and desire. – According to *E.N.* 1097a30-34 that which deserves to be chosen for its own sake is happiness. Here the cause of happiness, that is, the object of contemplation must be meant.

a35. καὶ ἔστιν ἀριστον αἰεὶ ἢ ἀνάλογον τὸ πρῶτον. The first in every class of being is always the best, or at least something analogous to

⁴⁵ Cf. the *Philebus* and *Statesman*, esp. 26d; 64d; 65a.

⁴⁶ *Laws* 716c.

⁴⁷ Cf. fr. 27, 28, 29. – In later Platonism we encounter it in the *Didaskalos*, ch. 8, in Plotinus, V, 5, 4 and in Proclus' *Elem. theol.*, prop. 117 (πᾶς θεὸς μέτρον ἐστὶ τῶν ὄντων).

⁴⁸ Cf. *Met.* 1053b5. Sometimes Aristotle speaks of the process of knowledge in terms of measure (*Met.* X 6). In his *Geistmetaphysik*, 155-159, H. J. Kraemer concludes his discussion of the text by pointing out a close relationship between the doctrine of Aristotle's First Principle and Plato's One, respectively Xenocrates' First God.

⁴⁹ In the *Corpus caldés* often has this meaning without connoting the aesthetically beautiful. See W. Grundmann, in G. Kittel, *ThWNT* III, καλός.

⁵⁰ See Oates, *Aristotle and the Problem of Value*, Princeton 1963, 231.

it⁵¹. The purpose of this remark is to show that the Primary Being is the best, and also that it is a final cause, which is desired by the cosmos⁵². In Plato's ontology of participation the first of a series is the formal and final cause of the following members, as may be concluded from his use of the terms *παρουσία* and *μέθεξις*⁵³. In the *Protrepticus* B 33 (Düring) we encounter a similar theory of priority which seems to be Platonic⁵⁴. In *Met.* V 11 Aristotle lists the various kinds of priority; this is also done in the *Divisiones Aristoteleae* 65 B. Priority in nature (*φύσει*) means that if the thing which is prior to others *φύσει* does not exist, the others will not exist, whereas it can itself exist without the others⁵⁵. In the *Eudemian Ethics* I 8 Aristotle criticizes the Platonic theory of priority and participation. In Aristotle's ontology there is only place for priority in the order of efficient and final causality.

1072b1. The text asserts that the 'for the sake of' is found in the unmovable things, and that it is twofold. The first statement is in line with the context which aims at showing that the first principle is an object of desire. Aristotle 'proves' it by referring to 'division'. Some commentators tried to explain this cryptic remark by turning to the following lines, or by reading into it a reference to a distinction made in the *De philosophia*⁵⁶. I would prefer to take it as saying that the scheme of division of reality (according to the diaeretical method) shows that the 'for the sake of' is indeed found in the things which are not subject to movement. We do not have a model of such a division, but we may assume that the argument was that the 'for the sake of' is an end and therefore has no movement itself.

Turning now to the second assertion and leaving the precise meaning of the distinction for the moment out of consideration, the question

⁵¹ Ps. Alexander 695,20-23 gives the example of the genus 'movement': circular movement can analogically be called the best. — That every class of being is meant may be deduced from *del*.

⁵² According to *Phys.* 194a30 only the best can be a final cause.

⁵³ See *Rep.* 517c; Ross, *Plato's Theory of Ideas*, pp. 228-9; Sext. Emp., X 269.

⁵⁴ F. Dirlmeier, *Aristoteles, Eudemische Ethik*, 196.

⁵⁵ Cf. *Met.* 1019a2-4; *Phys.* 260b17-19.

⁵⁶ I. Düring, *Aristoteles*, 185. This interpretation was provoked by a text of *Phys.* 194a36 which says that the distinction between the two meanings of *τὸ οὐ ἔνεκα* was stated *ἐν τοῖς περὶ φιλοσοφίας* (according to ps. Alexander, 695, 25-26, the *De bono*). — However, *ἡ διαίρεσις* here does not have any direct connection with this distinction of two meanings of the expression.

arises what is the purpose of the remark⁵⁷. A parallel text in *E.E.* 1249b14ff. may be of help to find the answer: God rules not in the sense that he would issue commands, but in that he is an end. This is further clarified by the statement that the term 'end' has a dual meaning, viz. that 'for the sake of' and that 'in the interest of'. Since God does not need anything, he cannot be an end in the latter sense.

This applies to our passus: God is said to be a good: however, things are not in such a way directed to God as to bring him advantage, for God is entirely self-sufficient. If this interpretation is correct, the sentence has a specific role in the chapter.

As to the distinction of the 'for the sake of', the text is corrupt. Christ corrected it by adding *καὶ τὸ οὐ ἔνεκα καὶ τινός*, a correction already approved by Zeller⁵⁸ and adopted by Ross and Jaeger. The emendation is fully justified because of (a) the following *ὃν τὸ μὲν... τὸ δέ*. (b) parallel constructions in *De anima* 415b2 and *Phys.* 194a35. (c) the doctrine set forth in the chapter⁵⁹.

As to the grammatical construction of the clause H. von Arnim thought that the genitive *τινός* signifies the person or thing which strives for a purpose⁶⁰. However, this explanation does not have any solid base and with the great majority of the commentators we should understand *τινός* as a more explicit rendering of the *οὐ*. — A second question is that of the meaning of *ἔστι* and *οὐκ ἔστι* b 3. With Bonitz and Zeller⁶¹ I think that it has to be referred to what precedes, so that

⁵⁷ According to Hicks, *Aristotle, De anima*, p. 340 (on 415b2), it is unnecessary and interrupts the argument.

⁵⁸ *Über die Lehre des Aristoteles von der Ewigkeit des Geistes*, Sitz. Ber. d. k. Preuss. Ak. d. W., phil. hist. Classe, 1882, pp. 1033-1055 (against Schwegler). *καὶ* was also read by Alexander; see Freudenthal, *op.cit.*, fr. 29.

⁵⁹ St. Thomas who used a defective Latin text, in which the distinction between *finis cuius gratia* and *finis cui* was hardly intelligible, suggests that the former is of two kinds (viz. one to be produced, one which is always there; unchangeable being is an end in the second sense). Thomas in writing this was perhaps influenced by *Met.* 996a21ff. and 1059a35-38, where Aristotle states that the *οὐ ἔνεκα* is the product of becoming (of *πρᾶξις*), and thus intimates that there is no *οὐ ἔνεκα* in unchangeable reality. — It would seem, however, that in A 7 the perspective is that of locomotion and not of production and becoming. — St. Thomas' interpretation with the distinction of *finis in actu* and *finis in potentia* was taken up again by M. de Corte, *La causalité de Premier Moteur dans la philosophie d'Aristote*, Paris 1935, 159-161.

⁶⁰ *Wiener Studien* 46 (1928), 7-8.

⁶¹ *Op.cit.*, 1055, n. 2 (against F. Brentano, *Psychologie*, 242).

the meaning is that God can only be said to be the object of desire in one of the two senses indicated.

We first encounter the distinction between *finis cuius gratia* and *finis cui* in the *De philosophia* (= *Phys.* 194a35-36), but that the divine does not need anything is a theme which frequently recurs in Greek philosophy and literature⁶². In the *De caelo* I 9 Aristotle posits a supreme being which is the τέλος of everything and toward which all things move, but which itself does not need anything.

b3. κινεῖ δὲ ὡς ἐρώμενον κτλ. In a26 Aristotle interrupted his argument of an unmoved Mover, to speak about the way in which the object of desire moves. He now returns to this First Mover and says that it moves by being desired. The ὡς probably serves the purpose of qualifying the unusual ἐρώμενον (ἐρᾶν applies to human love). Aristotle could not use the term ὁρεκτόν, for an object of desire is not always actually desired⁶³. It would seem that only things which have mind can experience this desire and that Aristotle is thinking here of the celestial bodies⁶⁴. On the cause or condition of the rise of desire in the first heaven see the Introduction IV.

b4. κινουμένων δὲ τᾶλλα κινεῖ. The manuscripts' reading κινουμένῳ is confirmed by the Arab versions⁶⁵ and adopted by Jaeger. Ross thinks that the sense 'by the things moved it moves all other things' can hardly be obtained from the Greek and proposes to read κινούμενα: 'All other things move by being moved'. This reading however is hardly probable, for the statement that other things move is irrelevant in this context. Moreover, in his discussion of movement Aristotle repeatedly distinguishes between 'that which is moved', 'the mover' and 'that by means of which it moves'⁶⁶, so that one would expect a similar distinction here. Further evidence in support of the reading κινουμένῳ may be found in *Laws* 898e-899a where Plato writes that one way in which soul, if itself outside the stars, might move them is by using a body of fire as an intermediate. – In view of this we must with Jaeger return to the manuscripts' reading κινουμένῳ, while leaving

open the possibility that some words disappeared from the original text⁶⁷. If this is the case, I do not think that τῷ οὐρανῷ was left out (as Jaeger suggests). Aristotle's intention is to make plain that there is a central source of motion, which moves by being desired. This statement is surprising because observation shows that there are other causes. Hence Aristotle writes that it is by means of the physical causality of that which desires it that the supreme being moves the other things. The original may have had something like ὁρεγόμενῳ δέ, i.e., by means of that which desires it.

Lines b3-4 implicitly state that the First Mover does not have a direct efficient causality in respect of the world. There must however be contact between it and the outer sphere because there is influence of the one upon the other. Yet this contact differs from the reciprocal contact between two bodies: the outer sphere does not touch the First Mover; the latter's causal influence and thus its contact is different from physical contact. Cf. *De gener. et corr.* 323a33 where Aristotle brings the example of our being grieved by someone else. In such a case we say that this person touches us, although we do not touch him.

In A 7 there is not the slightest hint of the view according to which the First Mover would have to be in a place in order to move. It would even seem that such a view is excluded since the First Mover is assumed to move by desire. *Phys.* VIII advances a different doctrine in as far as it asserts that the First Mover must be at the circumference of the world, and assigns physical causality to it (267a21-b9).

b4. Aristotle now develops a new thought: whatever is moved, changes (εἰ expresses a general condition). This principle is closely related to the analysis of movement in *Phys.* III.

The interpretation of b5-6 is beset with difficulties. Contrary to what Bonitz and Christ did, but following Ross and Jaeger I assume that ἡ κινεῖται, ταύτη δὲ ἐνδέχεται ἄλλως ἔχειν go together and that we must read γε for δέ. If this assumption is right, Aristotle states that the first heaven in spite of the fact that it is actuality, is subject to some kind of change, in as far as it moves locally.

ἡ φορὰ ἢ πρώτη signifies the substance of the revolving first heaven rather than only its circular movement. Cf. *De caelo* 292b26. – Jaeger's

⁶² Cf. Xenophanes A 32; Parmenides B 8,33; Euripides, *H.F.*, 1341; Xenophon, *Mem.* 1, 6, 10; *Tim.* 33d; 34b; *De caelo* 279a21; E. Norden, *Theos Agnostos*, p. 14.

⁶³ 'To desire' does not always have the pregnant sense of ἐρᾶν and thus, in the English translation, as need not be added.

⁶⁴ Cf. Theophrastus, *Met.* 5a28-b2 (ἐμψυχ' ἂν εἴη τὰ κινούμενα).

⁶⁵ Walzer, *op.cit.*, 226.

⁶⁶ Cf. *Phys.* 256b14ff.; *De anima* 433b13.

⁶⁷ Bonitz suggests to read τὸ δὲ κινούμενον. This certainly would give a good sense, yet such a considerable correction of the text is not warranted since the manuscripts' reading is not impossible.

text ὥσθ' ἡ φορά (after E. J. and Van Moerbeke), is better than the reading ὥστ' εἰ φορά of A^b and ps. Alexander, adopted by Ross.

εἰ καὶ ἐνέργεια ἐστίν. Jaeger adds εἰ (following E²) and writes ἐνέργεια, an impressive suggestion, but without support in the manuscripts or Arab and Latin translations. The correction does not seem necessary, for ἐνέργεια οὐσα occurs in 1072a25, and it can be said also of the first heaven, if the restriction is added that the first sphere has some potentiality.

κατὰ τόπον, καὶ εἰ μὴ κατ' οὐσίαν. The expression κινεῖσθαι (μεταβαλλεῖν) κατὰ repeatedly occurs in the *Corpus*⁶⁸. – Aristotle coined a special term to denote the only change occurring in the celestial bodies, viz. movement πόθεν ποι. See *De caelo* 277a18; 311b32; *E.N.* 1174a30 and *Met.* 1069b26. Elsewhere in the *Corpus* Aristotle intimates that this movement is not a local movement in the strict sense of the term, because the first heaven is not in a place⁶⁹.

b7. ἐπεὶ δὲ ἐστὶ κτλ. Aristotle's argument for the existence of an unmoved Mover, – if we may call it an argument –, is based upon the concept of formal causality⁷⁰: there must be a being which is pure actuality, without any change. Hence there is nothing left that it could do or become.

b8. φορά γὰρ ἡ πρώτη τῶν μεταβολῶν, ταύτης δὲ ἡ κύκλω. In the previous chapters we met the principle that each type or class of being has one natural movement or activity. This principle which has an important role in Aristotelean cosmology⁷¹, is already intimated in the Hippocratic treatises: a characteristic property or activity is considered to be the manifestation of the mysterious substance underlying it⁷². We find this view in Plato's *Protagoras* 348b. In *Rep.* 352d-353b Plato assigns one essential function to each species of things, a view which was taken over by Aristotle in his *Protrepticus* fr. 6 Ross (= Düring B 61-65). Making use of the Academic theory that the successive regions of the universe each have their own natural body endowed with a typical movement⁷³ Aristotle established his theory of simple bodies each of which has a specific local movement⁷⁴. In this

perspective alteration and other changes are dependent on local movement. This theory, which is one of the main doctrines of the *De caelo*, is confirmed by *Phys.* VIII, 7: combination and separation are at the origin of all other changes (this explanation is close to an atomistic theory rejected in the *De gen. et corr.*). It is not unlikely that, in the last analysis, this preponderance given to local movement is dependent on an (Academic) theory according to which the successive regions in space are related to the successive levels in the hierarchy of being⁷⁵.

φορά is most properly said of things that do not move by themselves⁷⁶, and when said of the first heaven, it connotes an outside cause of this movement. – The circle is more perfect than the straight line, because it is 'fulfilled' (τελείος): what is perfect is also prior⁷⁷.

b9. ταύτην δὲ τοῦτο κινεῖ: the unchangeable being moves the first heaven. In this context κινεῖν has a less pregnant sense, viz. to move as a final cause⁷⁸.

Why does desire of the First Mover result in circular motion, and not, for instance, in rest?⁷⁹ It has been suggested that the answer to this question lies in the fact that the only movement possible for the sphere of the aether is a rotation⁸⁰. However, I would rather prefer the following explanation: if subordinate nous present in a body has some form of permanent intuitive thinking, its body can only imitate this highest activity by perpetual circular movement. Since circular movement has no terminal which it strives to attain, it can continue for ever.

b10. ἐξ ἀνάγκης ἄρα ἐστὶν ὃν κτλ. When the Unmoved Mover is perpetual actuality (1072a25), he is what he is and cannot be anything else. Therefore, the first being 'is by necessity'. In Presocratic philosophy, ἀνάγκη usually means inevitable necessity inherent to the cosmos and cosmic process. In order to stress that this world is unchangeable Parmenides calls his goddess *Ananke*. In Empedocles' poem cosmic necessity has an important role; Democritus ascribed necessity to all natural process⁸¹. In his *Nubes* 377; 405 Aristophanes seems to allude to the use of Necessity as a principle of explanation by

⁶⁸ Cf. *Phys.* 200b33.

⁶⁹ *Phys.* 212b7-10; *De caelo* 270a8.

⁷⁰ See 1072a24-26.

⁷¹ Cf. *De caelo* 269b29ff.

⁷² J. Souilhé, *Etude sur le terme ΔΥΝΑΜΙΣ dans les dialogues de Platon*, pp. 55 ff.; Hipp., *De nat. hom.*, 5: ἑκαστον αὐτῶν ἔχει δύνανται τε καὶ φύσιν τὴν ἐωυτοῦ.

⁷³ K. Gaiser, *Platons Ungeschriebene Lehre*, pp. 182ff.

⁷⁴ Cf. my *Aristotle's Cosmology*, 16-20.

⁷⁵ See also *De caelo* 277a18; 288a15; *E.N.* 1174a30.

⁷⁶ *Phys.* 226a34.

⁷⁷ *De caelo* 269a34.

⁷⁸ Cf. M. de Corte, *op.cit.*, 163.

⁷⁹ Theophrastus, *Met.* 5a25.

⁸⁰ W. Bröcker, *Aristoteles*¹, Frankfurt a.M. 1964, p. 218.

⁸¹ Empedocles A 45; Democritus A 66.

Anaxagoras and Diogenes, who had not succeeded in reducing all process to a single cause (Mind)⁸². In Plato's writings Necessity is a key concept: it expresses the forces and limitation inherent in bodily nature, i.e., in the last analysis belonging to the Indeterminate Dyad, which can never be completely brought under the control of reason; one might call it the irrational condition of the sublunar world⁸³.

Although Aristotle knew this Platonic use of the term⁸⁴, he frequently uses *ἀνάγκη* to signify a property of that which is always⁸⁵. In *Met.* 1026b27 he points out the difference between Plato's *ἀναγκαῖος* (*βιαιός*) and the sense in which he is using the term (*τῷ μὴ ἐνδέχεσθαι ἄλλως*). Aristotle adds that what is by necessity is a principle (*αὕτη ἀρχὴ καὶ αὕτη αἰτία ἐστὶ*). The reason for this is that the ultimate principle must be unchanging, the more so since they must be the foundation of thought and certitude. In *Met.* IV 7 Aristotle establishes a connection between things in rest and the principles of thought. Opposing the view of Protagoras, he writes in 1009a36-38: "And again we shall ask them to believe that among existing things there is also another kind of substance to which neither movement nor destruction nor generation at all belongs"⁸⁶. From this we may infer that for Aristotle a first, necessary being must exist, in order to secure the certitude of man's knowledge⁸⁷. The necessity of this first

⁸² W. Theiler, *Zur Geschichte der teleologischen Naturbetrachtung bis auf Aristoteles*, Berlin 1965, p. 79.

⁸³ See F. Cornford, *Plato's Cosmology*, 160-177 and J. Skemp, *The theory of motion in Plato's Later Dialogues*, 90ff.

⁸⁴ *De caelo* 284a15. – In his 'Greek Science and Mechanism', *Class. Quart.* 33 (1939), 129-138, D. M. Balme studied this use of the term of Ananke in Aristotle's works. The author summarizes his examination of the evidence as follows: Ananke is a general name for the workings of the material cause when they are distinguished from the purposeful movements initiated by *Physis*. However, Ananke has a wider sense: it also indicates process which is an unavoidable result of certain physical interactions. The phenomena which Aristotle ascribes solely to Ananke are always accidental attributes; secondly the products of Ananke are always subsequent to the products of *Physis*. Ananke does not come into effect until after *Physis* has initiated a movement.

⁸⁵ *G.C.* 338a1-2; *Phys.* 196b12; *Met.* 1050b18.

⁸⁶ Oxford translation. Cf. *Met.* 1010a3-4: *ὅτι γὰρ ἔστιν ἀκίνητος τις φύσις δεικνύον αὐτοῖς καὶ πειστὸν αὐτοῖς*.

⁸⁷ In *Met.* IV 5 Aristotle appears to make certain concessions to those who say that contradictory states or qualities can be predicated of the material world. Aristotle concedes that the evidence of sensitive cognition does not make the principle of contradiction very clear, but the fact that there is a necessary being does make the principle evident.

being is logically consequent upon the fact that it does not change, and is its very existence⁸⁸. In this way Aristotle reconciled and brought together in one synthesis two key – concepts of his predecessors viz. *νοῦς* and *ἀνάγκη*.

καὶ ἡ ἀνάγκη, καλῶς, i.e., *ἔχει καλῶς*. Not to be subject to chance, force, pressure, limitation and change is a most desirable condition. Cf. *De caelo* 284a15: *ἄπονος διὰ τὸ μηδεμῶς προσδεῖσθαι βιαιᾶς ἀνάγκης*. *Met.* 1015b14-15: *εἰ ἄρα ἔστιν ἅττα αἰτία καὶ ἀκίνητα, οὐδὲν <ἐν> ἐκείνοις ἐστὶ βλαῖον οὐδὲ παρά φύσιν*.

b11-13. These lines attempt to explain in which of three possible senses, the first being is necessary. – The assertion that this first principle is necessary (b10) may cause some surprise to the reader, who remembers that for Plato necessity is the characteristic of the lowest of being. – The three senses listed are those mentioned in 1015a20 but the order here is different: the enumeration proceeds from enforcement coming from the outside to inner necessity, inherent to one's essence and being. – This last way of necessity, in particular the terms *ἀλλ' ἀπλῶς*, may be explained by a quotation from *Met.* 1015b11-14; "The necessary in the primary and strict sense is the simple; for this does not admit of more states than one, so that it cannot even be in one state and also in another; for if it did, it would already be in more than one". – The passus contains authentic Aristotelean thought, yet it interrupts the sequence of the argument and may have been added later.

Ps. Alexander, 696,27, thinks that the primary being is necessary in the second sense, but this is wrong. According to b8 as well as in view of the meaning of the terms, the third sense is most properly ascribed to the supreme being.

b13. *ἐκ τοιαύτης ἄρα ἀρχῆς ἡρτηται ὁ οὐρανός καὶ ἡ φύσις*. The verb *ἡρτηται* conveys the idea of some sort of causal dependence in being and in operation. Cf. *De caelo* 279a28-30: "From it (= *τἀκεῖ*) derive (*ἐξῆρτηται*) the being and life which other things, some more or less articulately but others feebly, enjoy" (Oxf. Transl.). In Plato's *Laws* 732e the term has a similar sense: without any restriction man should

⁸⁸ J. Chevalier, *La notion du nécessaire chez Aristote*, Paris 1915, p. 142, draws attention to the role of the necessity of the First Being in Aristotle's philosophy, but the author is not so fortunate in his explanation of this necessity (viz. it would result from its self-sufficiency).

with all his strivings 'be suspended to' the divine things⁸⁹. While in this text the term *ῥηται* applies in particular to man's operation, in *Met.* 1003b17 the sense of formal dependence is stressed: *πανταχοῦ δὲ κυρίως τοῦ πρώτου ἢ ἐπιστήμη, καὶ ἐξ οὗ τα ἄλλα ῥηται*⁹⁰. – In view of these texts it would seem that the term *ῥηται* here indicates in the first place that the activity and desire of the heavens turn to the first principle⁹¹. A certain ontological dependence may be connoted, but it is difficult to say which type of dependence. In view of the Platonic character of the ontology of the chapter it would seem that this dependence might consist in the fact that on a lower level in the hierarchy of being the heavens imitate the first principle.

ὁ οὐρανὸς καὶ ἡ φύσις. The term *φύσις* is likely to signify the sum total of things in this world in as far as they are subject to change. *Φύσις* does have this sense in *Phaedo* 96a (*περὶ φύσεως ἱστορίαν*) and *Tim.* 47a. Plato himself, reacting against a view which makes *physis* a kind of autonomous realm in which spontaneity and chance determine everything⁹², often uses the term to signify the nature of things, their meaning and value, and also the permanence of unchanging being⁹³. In the *Corpus* the term occurs in a gamut of meanings, as *Met.* Δ 4 shows. The sense which *φύσις* has here, viz. that of 'the sum of things subject to change' also occurs in *De anima* 430a10⁹⁴. – Aristotle does not say whether the heaven and the rest of the cosmos both depend in the same way on the first principle. In view of 1072a24 and 1072b4-5 it would seem that the dependence of the sublunar world is indirect, viz. through the intermediary of the heavens.

b14. With *διαγωγή δ' ἐστὶν κτλ.* a new section begins. Thus far

⁸⁹ Cf. W. Schädewaldt, *op. cit.*, 129. – I think that, ἐξ ὧν of e5 must be connected with θεῖα in e2.

⁹⁰ Cf. *Theaet.* 156a: ἀρχὴ δὲ ἐξ ἧς καὶ ἄ νυν δὴ ἐλέγομεν πάντα ῥηται. – Plato refers to a principle of knowledge. Yet in his philosophy principles of knowledge and principles of things are intimately related, if not identical. Cf. *Protrept.* fr. 5 (Düring B 36); *De caelo* 30 2a10ff.; *Met.* 1022a10.

⁹¹ Especially in the text quoted from *De caelo* I 9 this 'being suspended by desire' or 'being turned towards the τέλος' is of central importance.

⁹² *Soph.* 265c. Cf. D. Manuśperger, *Physis bei Platon*, Berlin 1969, 56–57.

⁹³ Cf. *Laws* 891c; 892c. – The original sense of the term is that of being, rather than that of growing. See D. Holwerda, *Commentatio de vocis quae est φύσις vi atque usu*, Groningen 1955, 104 (the root *φύ* is the equivalent of the Latin *fu* and the English *be*).

⁹⁴ J. Zabarella, *Comm. in tres Arist. libros de anima*, Venetiis 1605, i.h.l.: "totus mundus generationi et interitui obnoxius" (quoted after Hicks).

Aristotle described what one might call the entitative properties of the first being, viz. it is νοητόν, πρῶτον τὸ ὄν καλόν, οὐσία, ἀπλοῦν, ἐνέργεια, and he pointed out that it is desired by the first heaven. He now turns to an examination of its activity. The inquiry is inspired by the principle that the noblest human acts will show some similarity with the activity of unchangeable entity. Aristotle furthermore argues that this first being, since it is the object of desire, must be supreme pleasure; hence it has a cognitive activity, because this activity involves pleasure. There is yet a second line of thought in the passus: supreme νοῦς is identical with the νοητόν, and the first principle is thought.

In *Tim.* 36e Plato writes that the world-soul enveloping the heaven and "revolving within its own limit made a divine beginning of ceaseless and intelligent life for all time" (transl. by Cornford). It would seem that Aristotle deliberately transposed this Platonic doctrine of a first principle of movement to the level of an absolutely First Being (1071b32)⁹⁵.

In *Pol.* 1334a16 the term *διαγωγή* has the sense of certain activities of our leisure time, in which we indulge because we enjoy them, as for instance, study and intercourse with friends. In 1338a10 it is associated with σχολή, and in 1339b17-19 it is connected with happiness, the end of human life. The term occasionally has the wider sense of the way in which we pass our life⁹⁶. In *Met.* 981b18 and 982b23 Aristotle distinguishes between the things necessary for life (and the efforts needed to acquire or insure them) on the one hand and man's life, pursuits, study, once these basic needs have been fulfilled, on the other hand. This second state is called *διαγωγή*, and it is also associated with ῥαστώνη and ἡδονή⁹⁷. – In our passus *διαγωγή* has the narrow sense of study and contemplation (accompanied by pleasure) which can only be sustained over a short period.

The assertion that man's noblest pass-time or activity is that of God, is apparently based upon the assumption of an analogy between man and God, that is, on the conviction that man shares in the Νοῦς.

μικρόν χρόνον. That man is not capable of sustained, uninterrupted

⁹⁵ On the relation of this doctrine with Platonic thought see H. J. Kraemer, in *Kantstudien* 58 (1967), 330, n. 63.

⁹⁶ Cf. W. L. Newman, *The Politics of Aristotle*, III, 449.

⁹⁷ In Plato's dialogues the term *διαγωγή* has the general sense of a way of life, but hardly signifies a life of contemplation. – The distinction between different types of life is Platonic. Cf. *Apol.* 29d-e, and C. J. de Vogel, 'Plato, Aristoteles en het Ideaal van het beschouwende leven', in *Theoria*, Assen 1967, 154-171.

activity is a theme which repeatedly recurs in the *Corpus*. Cf. *E.N.* 1175a3-4: πῶς οὖν οὐδεὶς συνεχῶς ἡδεται⁹⁸. In 1178b25-27 we read: τοῖς μὲν γὰρ θεοῖς ἅπας ὁ βίος μακάριος, τοῖς δ' ἀνθρώποις, ἐφ' ὅσον ὁμοίωμα τι τῆς τοιαύτης ἐνεργείας ὑπάρχει. – The reason why man quickly tires is given in *Met.* 1050b22-28: the being of sublunar things comprises potentiality; hence an always the same activity is not possible. Potentiality in the realm of the essence is the cause of change at the level of activity. – Aristotle's view here stands in contrast with what Plato writes in his *Republic*, viz. that prolonged contemplation is possible: those who might want to continue their contemplation of the Good, must be forced to take care of the needs of the city (*Rep.* 519d).

ἐκεῖνο. In Plato's dialogues ἐκεῖνος is frequently used to designate the world of ideas beyond the visible things⁹⁹.

b16. ἐπεὶ καὶ ἡδονὴ ἢ ἐνέργεια τούτου. The argument, which is not explicitly formulated, is: the activity of the first principle is comparable to our activity in our leisure time; for this reason as well as because of the fact that the first being never tires, its activity is pure pleasure.

Aristotle's concise statement calls for comment: what does he mean when he writes that activity is pleasure and which is the place of pleasure in the life of the supreme principle?

For Aristotle the activity (τὸ ἔργον) of a thing is its supreme good and its end¹⁰⁰. When he distinguishes between various types of activity, viz. work which produces something and work which consists in the use of a faculty, it is the latter which constitutes man's highest activity¹⁰¹. – In this chapter Aristotle starts from a statement about man's highest activity to infer from this in which way the first principle may be said to be happy. Elsewhere he takes the popular conception of the blessed life of the gods as his starting-point: god cannot have a virtuous activity, say of justice, liberality or temperance, but is only engaged in contemplation. Hence it follows that perfect

⁹⁸ See Gauthier and Jolif, II 842-843. Cf. also 1176b34-5; 1177a21-22.

⁹⁹ Cf. *Phaedr.* 250a; for other texts see E. des Places, *Platon. Lexique*, p. 168.

¹⁰⁰ Cf. *Met.* 1019a8: καὶ τέλος ἐκάστου τὸ ἔργον and *Met.* 1050a21: τὸ γὰρ ἔργον τέλος, ἢ δὲ ἐνέργεια τὸ ἔργον.

¹⁰¹ *End. Ethics* II 1.

¹⁰² *Eth. Nic.* 1178b3-10. In 1134b27 he writes that God has an activity characterized by immobility.

¹⁰³ It would follow from this that in the text ἡδονὴ signifies joy rather than just pleasure. On this meaning of ἡδονὴ see *De anima* 412a26. – ἐνέργεια here is a never changing, never ending activity. It has stability, and it is different from human activity which is always becoming, and not a lasting possession (*E.N.* 1168a12-15).

happiness is a contemplative activity¹⁰². In view of these texts ἐνέργεια in b16 is likely to connote the activity of contemplation¹⁰³.

Several texts in the *Corpus* deal with the precise relationship between activity and pleasure. *E.N.* 1153a12-15 mentions and disproves a view according to which pleasure would be a process which takes place in the sensitive part of the soul and in which man is largely passive. Aristotle maintains that pleasure is an activity¹⁰⁴. – In the *Protrepticus* fr. 14 Ross (= Düring 87) a similar statement occurs: ἀλλὰ μὴν ἢ γε τελεία ἐνέργεια καὶ ἀκώλυτος ἐν ἑαυτῇ ἔχει τὸ χαίρειν ὥστε ἂν εἴη ἢ θεωρητικὴ ἐνέργεια πασῶν ἡδίστη. In this connection Aristotle makes a distinction between pleasure which is enjoyed while one lives and works, and pleasure which consists in life as such (αὐτὸ τὸ ζῆν ἡδύ, cf. B 88, 89 Düring). It is likely that in A 7 Aristotle has this second type of pleasure in mind, which is above the realm of momentary pain and pleasure, and seems to flow forth from one's very existence and life. Apparently life is implicitly a certain self-awareness and self-knowledge.

In *E.N.* X Aristotle seems to have modified his theory of the identification of activity and pleasure of *E.N.* VII. For in *E.N.* X 4 he only asserts that pleasure accompanies, completes and intensifies activity (ἐπεταί, a5; τελειοῖ, a15; συναύξει, a30)¹⁰⁵. Of great significance in this passus is the insight that pleasure has a supra-temporal aspect: its form will not become more perfect, even if it lasts longer, and in this it is akin to activity¹⁰⁶.

The text of 1072b17 need not be understood as affirming complete identity between activity and pleasure¹⁰⁷. One could take it to mean that pleasure accompanies every activity¹⁰⁸. Yet the gist of the text

¹⁰⁴ See A. J. Festugière, *Aristote. Le plaisir*, XXI and Gauthier and Jolif, *L'Ethique à Nicomaque* II 779. The authors point out that in *E.N.* VII, cc 12-15, Aristotle adopts to a large extent Eudoxus' theory of pleasure: pleasure is a good, one kind of pleasure is the supreme good.

¹⁰⁵ There is a real discrepancy between *E.N.* VII 13 and X 4.

¹⁰⁶ See J. L. Ackrill, 'Aristotle's distinction between ἐνέργεια and κίνησις' in *New Essays on Plato and Aristotle*, ed. by R. Bambrough, London 1965, 125-141, p. 128.

¹⁰⁷ In particular when we read with recent editors καὶ ἡδονὴ ἢ ἐνέργεια τούτου.

¹⁰⁸ Thus, Gauthier and Jolif, *op. cit.*, – J. Léonard, *Le bonheur chez Aristote*, Bruxelles 1948, 80, thinks the text states the identity of both and that *Met.* A is earlier than *E.N.* X. – I Düring, *Aristotle's Protrepticus*, 250, n. 2, assumes *Met.* A to be earlier even than *E.N.* VII. – I have already drawn attention to several facts which point to an early date of chapter seven.

as well as the following considerations make it likely that Aristotle partially identified both.

Aristotle apparently brings in the question of pleasure because it rated high in his scale of values and he felt it could not but be attributed to the First Principle. – According to Aristotle all beings strive for pleasure. The basis for this striving is a divine element in their nature, i.e., a certain likeness with God, who is in a state of uninterrupted pleasure, – his activity being characterized by immobility. "If the nature of anything were simple, the same action would always be most pleasant to it. This is why God always enjoys a single and simple pleasure; for there is not only an activity of movement, but an activity of immobility, and pleasure is found in rest more than in movement"¹⁰⁹. All things imitate the first; when striving for pleasure they imitate a supreme pleasure in the First Principle, whose very activity is pleasure¹¹⁰.

This position which considers pleasure man's highest good, was a daring innovation¹¹¹. In Plato's later years the question of whether pleasure is man's good or not was hotly debated. The *Philebus* reflects several theories of pleasure¹¹². Speusippus maintained that pleasure, being the opposite of pain, is not a good¹¹³. To Eudoxus, on the other hand, pleasure was the supreme good. Aristotle appears to take a position close to that of Eudoxus¹¹⁴. He did distinguish, however, between various types of pleasure and denied that pleasure of the senses can become the true purpose of ethical life¹¹⁵. As was pointed out above Aristotle made pleasure an aspect of the experience of life itself, that is, an aspect of self-knowledge. He combined man's fundamental desire of knowledge (*Met.* 980a1; *E.N.* 1096b17) with a similar desire of pleasure: by proclaiming God as the supreme object of

¹⁰⁹ *E.N.* 1154b24-28.

¹¹⁰ Ph. Merlan, *Epicurus and Aristotle*, Wiesbaden 1960, 19-37, also concludes that kinship with God is the basis for imitation.

¹¹¹ See *E.N.* 1153b9-13: ὥστε εἴη ἄν τις ἡδονὴ τὸ ἀριστον, τῶν πολλῶν ἡδονῶν φαύλων οὐσῶν, εἰ ἔτυχεν ἀπλῶς.

¹¹² See A. Diès, *Platon. Le Philèbe* (Budé), LIII-LXXXV.

¹¹³ *E.N.* 1153b1-7. Cf. 1104b24 and R. Philippson, 'Verhandlungen über die Lustlehre', *Hermes* 60, p. 454.

¹¹⁴ Cf. I. Düring, *Aristotle's Protrepticus*, pp. 250-251; W. Schädewaldt, *op. cit.*, p. 122.

¹¹⁵ *De iustitia* fr. 4 (R² 86). Bignone, *L'Aristotele perduto e la formazione filosofica di Epicuro*, I, Firenze 1936, thinks that this text witnesses to an anti-hedonistic stage in Aristotle's thought. However, this is certainly not the case.

knowledge as well as by asserting that he is in a state of uninterrupted pleasure he could make him the end of human activity¹¹⁶.

b17. καὶ διὰ τοῦτο ἐγγήγορας αἰσθησις νόησις ἡδιστον. – When activity is man's highest good, inactivity deprives him of it. – On several occasions Aristotle points out that it is the soul's task to be alive and engaged in some activity. Sleep, on the other hand, is a situation in which the soul is inactive and does not really live¹¹⁷. – In *Met.* Θ 6-9 Aristotle elaborates the distinction between the capacity to act and real activity. He points out that we apply the term 'to know' to a man who uses his knowledge rather than to one who merely has it. In *Protr.* fr. 14 he had already said that a waking man 'lives more' (ζῆν ἄρα μᾶλλον) than one who is sleeping. "Perfect and unimpeded (ἀκώλυτος) activity contains in itself delight, so that the activity of thinking must be the most pleasant of all"¹¹⁸.

αἰσθησις. Certain φυσιολόγοι upheld the view that sensations, as, for instance, seeing and hearing, are accompanied by pain which we no longer notice because we have grown used to it¹¹⁹. Plato has a more optimistic view and frequently speaks of the pleasures caused by different types of sensation¹²⁰. Aristotle states that both pleasant and painful things can be the object of sensation¹²¹. Thus wherever there is sensation, pain and pleasure will occur. However, in as far as sensation is an activity, it is the fulfilment of a potentiality and must

¹¹⁶ In spite of Aristotle's synthesis the question of whether and of how God is happy continued to be discussed, as we may with some probability infer from the fact that Theophrastus wrote a treatise on *The Happiness of the Gods* (D.L., V 49).

¹¹⁷ *Protrept.* fr. 14 (Düring B 83). ἀγρία ψυχῆς ὁ ὕπνος ἀλλ' οὐκ ἐνέργεια. Cf. *E.E.* 1219b20, which gives the same definition.

In Presocratic thought sleep was generally regarded as being brought about by the moistening of the soul and/or by a reduction of organic heat.

Cf. G. Vlastos, in *Amer. Journ. of Philol.*, 1955, 364-5, n. 56-57 (Diog. Apol., A 19,44; Empedocles A 85; Hippocrates, *De Flat.* 14).

Düring suspects that the theme 'sleep is inactivity' is authentically Aristotelean; in his commentary on the *Protrepticus*, 246, he quotes several instances of its use: *E.E.* 1216a2-10; a24ff.; *E.N.* 1095b32; 1147a11-14; 1178b18-20.

¹¹⁸ *Protr.* fr. 87 Düring (transl. by Düring).

¹¹⁹ See *E.N.* 1154b5-8. Theophrastus ascribes such a view to Anaxagoras (*Doxogr. gr.* 504,9).

¹²⁰ Cf. *Rep.* 584b-c; *Phil.* 51b; *Tim.* 65a.

¹²¹ *De anima* 414b4. Cf. Also 413b23: ὅπου μὲν γὰρ αἰσθησις, καὶ λύπη τε καὶ ἡδονή.

bring some satisfaction. Thus Aristotle writes in *E.N.* b23: κατὰ πᾶσαν γὰρ αἰσθησιν ἐστὶν ἡδονή¹²².

In the text sensation and thought are said to lead to (or to produce) expectations and memories. The reader will be prompt to infer that the latter must be the direct cause of pleasure. Yet Aristotle's view is more complicated. In *Rhet.* 1370a28-35 he writes that expectations and hopes, in as far as they are sensitive cognition (ἐπεὶ περ καὶ αἰσθησις), give us pleasure. But their power is still greater, for they also allow us to see the good consequences of things which when present were not agreeable, or they help us to enjoy something which is not yet present. – In *E.N.* 1166a24-25 a somewhat different explanation is given: the virtuous man always does what is right and therefore is always happy about his past deeds. Likewise the fact that he knows that he will act rightly in the future fills him with joy¹²³.

b18. ἡ δὲ νόησις ἡ καθ' αὐτὴν τοῦ καθ' αὐτὸ ἀρίστου καὶ ἡ μάλιστα τοῦ μάλιστα.

F. M. Cornford analysed the meaning which the term νόησις has in Plato's dialogues: (a) intelligible cognition as opposed to αἰσθησις or δόξα. (b) within the province of intelligible cognition the intuitive apprehension of an idea or principle (here εἴψασθαι, κατιδεῖν, θεᾶσθαι are used); secondly the perfectly clear contemplation of truth (νοῦν ἔχειν)¹²⁴. It would seem that this analysis also applies to the meanings of νόησις in the *Corpus* and that in b18 the term has the sense of contemplative knowledge.

καθ' αὐτὴν. The preposition κατὰ here stresses what is contained in the very actuality of thought, setting it apart from influences coming from the outside. One may illustrate the text with a passus from the *Phaedo* 66a where Plato speaks of examining an object by thought alone, without letting sight or other senses interfere in this contemplation: αὐτῇ καθ' αὐτὴν εἰλικρινεῖ τῇ διανοίᾳ χρώμενος αὐτὸ καθ' αὐτὸ εἰλικρινές

¹²² Cf. 1174b26 and 1096b17.

¹²³ Here Aristotle sets forth a view which is contrary to that of Aristippus according to whom man's good does not consist in hope for the future or recollections of past events, but in what is now (τῷ παρόντι). See fragm. 207 Mannebach (Athenaeus XII, p. 544a-b).

¹²⁴ 'Mathematics and Dialectic, in the *Republic*', in *Mind* XLI, 37-52; 173-190, p. 51. – Miss H. D. P. Lee argues that νόησις sometimes signifies the typical knowledge of mathematical objects, 'Aristotle's Account of the First Principles', in *Class. Quart.* 1935, 113-124.

ἐκαστον ἐπιχειροῖ θηρεύειν τῶν ὄντων¹²⁵. Judging from this text Aristotle's expression 'thinking by itself' does not mean that this type of knowledge has no object. The following words τοῦ καθ' αὐτὸ ἀρίστου indicate this object, viz. of the best and noblest being, which exists by virtue of its own essence. The terms evoke the passus in the *Republic* where Plato introduces the idea of the Good. But doesn't Aristotle in his *Ethics* emphatically deny that there is a supreme Good?¹²⁶ On closer inspection of the text it would seem that Aristotle, rather than rejecting the existence of a supreme Good, denies that there is a subsistent form of goodness (which would be the concept of goodness); furthermore, he states that such a universally conceived form of goodness could never be an object of desire for man. These texts of the *Eudemian and Nicomachean Ethics* by no means exclude the existence of a First Being; such a being could even be called 'good' or 'best', if we take the terms to mean ontological perfection, and a concretely existing good¹²⁷.

καὶ ἡ μάλιστα τοῦ μάλιστα. Thinking which is in the highest degree by itself has the most perfect and self-sufficient being for its object. – Aristotle does not give the reason why thinking by itself has what is best by itself for its object. His doctrine is probably based upon the insight that there is a correspondence between the essential nature of a thing, its activity and its object. – The expression ἡ μάλιστα νόησις intimates that there are different levels of pure thought. Aristotle does not say whether these occur in different thinking subjects, or in the same subject.

b19. αὐτὸν δὲ νοεῖ ὁ νοῦς κατὰ μετάληψιν τοῦ νοητοῦ. – In b19-24 Aristotle sets forth some characteristics of noûs in general in order to illustrate God's thinking. In particular he points out that in the process of thought the noûs becomes the intelligible object¹²⁸; noûs thinks itself. – For its doctrinal contents the passus is one of the most important texts of the *Corpus*¹²⁹.

¹²⁵ Cf. also 67c. – Plato frequently uses the preposition κατὰ to stress the formal aspect of things, e.g., in *Soph.* 255c and *Phil.* 51c. – In *Anal. Post.* 85a23-4 Aristotle makes a distinction between knowing something by itself (καθ' αὐτό) and by means of that which is not the thing itself (κατ' ἄλλο). According to the explanation above it would be wrong to take the expression to mean 'subsistent thought' (in the ontological sense).

¹²⁶ *E.E.* I 7 and 8; cf. *E.N.* I 4.

¹²⁷ In *E.E.* 1217b30-2 he explicitly says that νοῦς and God are good.

¹²⁸ See the general Introduction on Noûs and on self-knowledge.

¹²⁹ While being a reformulation of certain Platonic insights, it expresses a doctrine which had a great influence upon Neoplatonic philosophy.

By sharing in the object of thought *noûs* knows itself.

(a) for Aristotle all human activity should serve the purpose of the self-fulfilment of man, that is, man should become master of himself, autonomous and his own being should be reduced to intellectual clarity¹³⁰. The knowledge which is latent in the soul or *noûs* in a latent state, must become actualized¹³¹. Since the *noûs* is akin to all things, it knows the other things by means of this self-knowledge. One may also state this in another way: in order to be true, knowledge must be referred back to the centre of *noûs*, and placed in the light of the first evident principles.

(b) Hence knowledge of an object will always lead to this self-knowledge¹³². The text expresses this by adding *κατὰ μετάληψιν τοῦ νοητοῦ*. *νοητὸς γὰρ γίγνεται θιγγάνων καὶ νοῶν, ὥστε ταῦτὸν νοῦς καὶ νοητόν*. – By participating in the intelligible, mind itself becomes known. In *E.E.* 1245a1-11 Aristotle gives a more detailed explanation which, in view of the close parallels in terminology with *A* 7, may be used to illustrate the meaning of our *passus*: the knowable has a definite character; man is not yet in himself those definite things which constitute the contents of his knowledge, but he may acquire them or become them by sharing in them during the process of knowledge. In the latter text Aristotle uses the expression *κατὰ μετάληψιν τῶν δυνάμεων*. *δύναμις* here apparently means the force, the activity of the object of knowledge which unveils itself in cognition¹³³. The object gives itself to the mind, that is, it turns the mind into itself¹³⁴. Aristotle further clarifies what he wants to say by using the term *θιγγάνειν*. The verb is rare in Greek prose; Plato does not use it. In the dialogues its synonym *ἄπτεσθαι* occurs; it signifies man's apprehension of being¹³⁵.

¹³⁰ Cf. *αὐτὸς εἶναι τὸ γνωστόν*, *E.E.*, 1245a10, 1244b28; *τὸ γὰρ ζῆν διατιθέναι γνῶσιν τινα*.

¹³¹ *De anima* 431b21.

¹³² In *E.N.* 1170b4 an important term occurs viz. *συναισθανόμενοι*, which, in its context, means that the knowledge of an object is accompanied by the knowledge of the self.

¹³³ In Presocratic philosophy *δύναμις* can have the sense of the property of a thing in which its nature is revealed. When applied to the ideas it signifies that which shows their essence. See J. Souilhé, *Etude sur le terme ΔΥΝΑΜΙΣ dans les dialogues de Platon*, Paris 1919, pp. 149ff., p. 190.

¹³⁴ In *Phaedr.* 251b Plato uses the expression *δεξάμενος τοῦ κάλλους τὴν ἀπορροήν*.

¹³⁵ *Phaedo* 65b; *Rep.* 490b3. In *Tim.* 37a the World-Soul is said to touch being; however, it already contains within itself the elements of this being. *ἄπτεσθαι* here connotes ontological contact.

In the *Corpus* both *ἄπτεσθαι* and *θιγγάνειν* are used, cf., for instance, the *Eudemus*, fr. 10 (= Plutarchus, *De Is. et Osir.* 382d-e), ...καὶ θιγγόντες ἀληθῶς τῆς περὶ αὐτὸ καθαρᾶς ἀληθείας οἷον ἐν τελέτῃ τέλος ἔχειν φιλοσοφίας νομίζουσι. In the first lines of this text there is question of the knowledge of the pure and simple which flashes like lightning through the soul granting it for once (*ἅπαξ*) to touch and see. In *Protr.* fr. 9, as read by Düring B 100, Aristotle says: ὥστε πάντες καθ' ὅσον θιγγάνονται τοῦ φρονεῖν καὶ γεύεσθαι δύνανται τούτου τοῦ πράγματος, οὐδὲν οἴονται ἄλλα εἶναι¹³⁶. – These texts have a mystical ring. In fact, as *De anima* 407a15 intimates, by the term Aristotle denotes a coming into contact with the shining truth of pure being, an experience which happens only once to the soul¹³⁷. From the use of the term in some texts of Plato's dialogues, analogous with the *Eudemian Ethics* VII 12 (where the presence of the Determinate is pointed out) and with the *Eudemus* and *Protrepticus*, we conclude that *θιγγάνων* and *νοῶν* of b21 must be understood as referring to contact with principles and pure being, a contact which results in illumination and mystical knowledge. Certain texts in Plato's dialogues speak of such an experience which is a sudden illumination of the soul¹³⁸. The mind apparently feels transformed into and fully united with its object. It is significant that Aristotle here recurs to the highest form of human knowledge in order to understand the nature of absolute knowledge and to explain the being of God¹³⁹.

In a recent article R. Norman argues that the majority of the commentators have not correctly understood the nature of the self-knowledge of the First Mover: what is meant is not self-contemplation,

¹³⁶ Cf. also *Met.* 1051b24, and *P.A.* 644b31-34, where concerning our contact with divine things Aristotle writes that even if we know them only a little we enjoy them more than anything else.

¹³⁷ Likewise Theophrastus, *Metaph.* 9b13-16, speaks of a supreme form of knowledge in which the mind directly touches τὰ ἄκρα καὶ πρῶτα. In this knowledge no error is possible.

¹³⁸ Cf. *Symp.* 210a; *Phaedr.* 250a-c (*ἐποπτεύοντες ἐν αὐγῇ καθαρᾷ*); *Epist.* 7, 344b (*ἐξέλαμψε φρόνησις περὶ ἕκαστον καὶ νοῦς*). – On the characteristics of this intuitive knowledge, see A. J. Festugière, *Contemplation et vie contemplative selon Platon*¹, Paris 1950, pp. 260-2; 343-346; Ph. Merlan, *Monopsychism, Mysticism, Metacognition*, The Hague 1963, pp. 30ff.

¹³⁹ On other occasions Aristotle speaks of knowledge using the metaphor of the impression of a seal upon wax (*De anima* 424a19; 435a2). *A* 7 apparently does not deal with ordinary, discursive thought, but with the highest form of intuitive knowledge.

but simply that identity of νοῦς and νοητόν which characterises all abstract thought¹⁴⁰. The author is certainly right when he says that the passus describes something which is typical of the activity of man's theoretical mind, yet it by no mean follows that (a) there is no more to the thinking of the First Mover than this. See our commentary on the expression "thinking of thinking" of chapter nine; (b) the highest form of human knowledge (and thus of the knowledge of God) does not primarily and essentially tend to self-knowledge but is abstract knowledge of just any contents without a special relation to the being of the knowing-subject. – In Introduction III it was shown that the theme of self-knowledge is of central importance to Plato and Aristotle. Finally, Norman also fails to notice that for Aristotle the *being* of the mind and that of its object are not the same in the case of the human mind, but that they are the same in God.

b21. ὥστε ταῦτόν νοῦς καὶ νοητόν. The insight (νοῦς) is the very truth of the object shining in the mind. Man's thought is the truth it knows. – This identity between the mind and its objects presupposes that the mind is of such a nature as to become in actual thinking the contents of what it thinks, i.e., it does not have a nature of its own, which would be different from its objects¹⁴¹. – Aristotle here uses νοῦς mainly in its sense of insight¹⁴²; if we emphasize its entity as a faculty of the thinking subject, we should say that there is identity with the object in the order of knowledge, but distinction in the order of being. Yet in the case of absolute, subsistent νοῦς this distinction between νοῦς as a faculty and its object does no longer apply¹⁴³.

b22. τὸ γὰρ δεκτικὸν τοῦ νοητοῦ καὶ τῆς οὐσίας νοῦς, ἐνεργεῖ δὲ ἔχων. By this sentence Aristotle wants to explain the identity of Νοῦς and the intelligible: νοῦς receives the object and οὐσία. When it has re-

¹⁴⁰ 'Aristotle's Philosopher-God', in *Phronesis* 1969, 63-74.

¹⁴¹ *De anima* 429a21: ὥστε μὴδ' αὐτοῦ εἶναι φύσιν μηδεμίαν ἄλλ' ἢ ταύτην εἶναι δυνατός. – Sensation is also said to be identical with the object actually perceived (424a25). In 425b26 Aristotle adds that the being (τὸ δ' εἶναι) of the sense and that of its object are not the same.

¹⁴² νοῦς often means 'insight', rather than 'mind'. For some instances see the Introduction II and the *De anima*, 430a19-20: τὸ δ' αὐτό ἐστιν ἢ κατ' ἐνέργειαν ἐπιστήμη τῷ πράγματι (cf. 431a1-2); 430a3-5: ἐπὶ μὲν γὰρ τῶν ἀνευ ὕλης τὸ αὐτό ἐστι τὸ νοοῦν καὶ τὸ νοούμενον· ἢ γὰρ ἐπιστήμη ἢ θεωρητικὴ καὶ τὸ οὕτως ἐπιστητὸν τὸ αὐτό ἐστιν.

¹⁴³ Ps. Alexander, 698,27, understands the text as affirming this identity only in the case of self-knowledge (ὥστε εἰταν ἑαυτὸν νοῦ ταῦτόν γίνεται ὁ νοῦς καὶ τὸ νοητόν).

ceived these, it is active. This line stresses that aspect of knowledge which is reception, and thus it seems to apply in the first place to νοῦς which is or can be in a state of potentiality. Hence we may illustrate the meaning of the clause by a comparison made in *De anima* 418b11: like a thing which catches fire becomes fire, or like the transparent becomes actually transparent through fire, so νοῦς becomes itself lighted by contact with the intelligible and it becomes the intelligible. In this view knowledge is participation and the intelligible has a reality of its own, distinct from νοῦς. This is perhaps why Aristotle adds καὶ οὐσία¹⁴⁴. – The clause then applies to human νοῦς, but not directly to supreme νοῦς.

Aristotle uses the term δεκτικόν to indicate that knowledge is a process of receiving¹⁴⁵. This term is particularly suited to describe the function of the senses, which when acted upon, become the object¹⁴⁶. In *De anima* 429a15 the supreme part of the soul by which it knows and understands is said to be impassive, yet receptive of the form which it is potentially.

In ἐνεργεῖ δὲ ἔχων the participle ἔχων signifies the 'possessing' of the intelligible, i.e., mental possession, a sense which it has in *Theaet.* 154a and *Rhet.* 1366a12¹⁴⁷.

The relationship between being and knowing is a theme which frequently recurs in Greek philosophy. In the famous fragment B 16

¹⁴⁴ Bonitz, 501, rightly points out that καὶ in καὶ τῆς οὐσίας is epexegetic. However, I do not think that he is right when he understands οὐσία as signifying (only) the essence (τὸ τί ἦν εἶναι), for (a) the νοῦς must 'receive' reality and enter into contact with reality; (b) in *Λ οὐσία* almost everywhere has the sense or the connotation of the *existent* thing; (c) *De anima* 430a3-5 says that to know and to be known is the same in things without matter. The reason is that material things are not intelligible *in actu*. From this text we may infer that Aristotle when speaking of the identity of νοῦς and its object does not mean abstractive knowledge, but intuitive knowledge of the reality of things. – Hence the term οὐσία in the text is likely to have the meaning of existent thing.

¹⁴⁵ In Plato's dialogues the term does not occur, but δέχεσθαι does. In the early *Topics* (102a20; 132b1; 133a20; 134a17 etc.) it is frequent, so that it probably also was in use in the Academy.

¹⁴⁶ *De anima* 424a17; 425b23.

¹⁴⁷ See Bonitz, *Index* 305b46. In his commentary Bonitz adds that the term does not mean a state of potential knowledge as Schwegler, Krisch and Zeller, misled by *Phys.* 255a33 and *De anima* 412a23, thought. – Tricot points to a construction like ληρεῖς ἔχων (you keep talking) and suggests that the sense of the expression is: "mind is continuously in actuality". – In the context this is very unlikely: ἔχων clearly means 'by having it' or 'by keeping it'.

Parmenides says that 'that which thinks' is the substance of man's limbs, and in fr. 3 that it is the same thing that can be thought and be. The interpretation of these texts is difficult. It is perhaps best to consider B 16 as influenced by hylezoistic conceptions¹⁴⁸, and B 3 as meaning that a thing which is apprehended in its being by *noûs* must exist¹⁴⁹. – According to Empedocles, B 110,10 all things are – to a certain degree – self-knowledge. In Plato's *Parmenides* 132c the problem is raised whether things which share in forms (and forms being objects of thought) consist of acts of thinking. – In *Tim.* 37a the World-Soul is said to know things by its being, which consists of a blend of three forms: knowledge results when the soul enters into contact with something which has these forms¹⁵⁰.

Aristotle was undoubtedly influenced by these conceptions and in *A* 7 he is groping his way to a doctrine which makes *noûs* an immaterial reality without a special nature of its own, except that through contact and intus-susception it can become its immaterial objects in real identity. In the case of the human soul this identity is realised only now and then, but in its highest form *noûs* is always actually and in complete identity the highest degree of being.

b23. ὥστ' ἐκείνου μᾶλλον τοῦτο δὲ δοκεῖ ὁ νοῦς θεῖον ἔχειν – Regardless of whether we admit the text of the manuscripts or change it with Ross and Jaeger (after Alexander's paraphrase) into ἐκείνου... τοῦτο, there can be no doubt that the clause brings the conclusion of the previous argument and contains a comparison. One could think of the following things being compared: (a) *noûs* and its object; (b) *noûs* in actuality with *noûs* in potentiality; (c) the object and reality, (d) the divine mind and the not-divine mind. – Ps. Alexander, 698,34-39, adopts the last explanation: He takes θεωρεῖα as the most divine operation and understands μᾶλλον as meaning 'rather', 'in the first place': self-contemplation (ὁ δοκεῖ ὁ νοῦς θεῖον ἔχειν) belongs above all to ἐκείνου, i.e., to the supreme mind. One may object against this that in this way the sentence loses its connection with what precedes; furthermore, in the context there is no question of any opposition between the divine *noûs* and human *noûs*; finally, this interpretation

requires a change in the text and mistakenly reads self-contemplation into ὁ δοκεῖ ὁ νοῦς θεῖον ἔχειν¹⁵¹. – Ross, 381, advances a somewhat similar explanation: "what reason is thought to have of the divine belongs to the divine mind rather <than to mind in general>". It is characteristic of the divine mind to be always in act¹⁵². – The weakness of Ross' position is that in the immediate context there is no question of such an opposition; furthermore, δοκεῖ becomes quite meaningless, and it would seem more natural to construct ἔχειν with ὥστε.

As to the interpretation which I listed under (c), in the context there is no question of an opposition between thought and reality.

Bonitz, Ross (in the Oxford Translation) and Tricot understand the clause in sense (b): actual thinking is rather that what *noûs* is thought to have of the divine than receptivity. – It is indeed a constant theme of Aristotelian philosophy that the actual exercise of a power is better than mere possession of it¹⁵³. Yet the context makes us expect Aristotle to say something on the intelligible; furthermore, this translation is difficult and it is more natural to read the text as follows: by sharing in the intelligible the *noûs* becomes active, becomes intelligible itself and knows itself; hence more than *noûs* itself that which it thinks has the divine. – In this interpretation ἔχειν is constructed with ὥστε and τοῦτο δὲ δοκεῖ ὁ νοῦς is the subject. The choice of δοκεῖ (instead of δέχεται) is very meaningful, because while having here the sense of thinking, the verb connotes 'receiving'¹⁵⁴.

¹⁵¹ Averroes does not say how Alexander understood the text. He himself, *op.cit.*, 322 E, follows one of the translations he used "intellectus igitur ille divinus est maior isto". The first translation he quotes is much closer to the Greek manuscript reading: "quare istud magis quam illud est id divinum quod intellectus videtur habere", a text which is probably based on a Greek original with ἐκείνου and τοῦτο.

¹⁵² Ross mentions a conjecture by A. J. Rahilly (*New Ireland Review*, Oct. 1909), who reads ἐνεργεῖ δὲ ἔχων ἐκεῖνο μᾶλλον, ὥστε τούτου κτλ. ('it is rather by possessing the former (the intelligible) that the intellect becomes actualised'). – This correction involves a far-reaching transposition but hardly makes the overall sense better.

¹⁵³ Cf. *Met.* 1051a4; *De anima* 430a18.

¹⁵⁴ Etymologically the verb is derived from δέχεσθαι. The reason why Aristotle chose this verb to express 'conceiving' could also be that the verb connotes that which 'appears to' the thinking subject, i.e., an aspect of the process of knowledge which Aristotle stresses very much in this passus. On the original sense of δοκέω "to adapt oneself to", "to accept" see G. Redard in *Festschrift A. Debrunner*, Bern 1954, 351-362 and P. Chantraine, *Dictionnaire étymologique de la langue grecque. Histoire des Mots*, Paris 1968, 291. A. T. Murray, 'On a use of

¹⁴⁸ See W. K. C. Guthrie, *HGPh* I 142f.

¹⁴⁹ *Id.*, *HGPh* II 14-19. See, however, the slightly different explanation by J. Mansfeld in his *Die Offenbarung des Parmenides*, 67-68.

¹⁵⁰ This text intimates that knowledge has a foundation in the knowing-subject: the knower must – in a sense – already be everything, so that in his activity of knowledge he may actualize this identity.

ἐκείνου then, refers to νοῦς. Within the same clause this demonstrative pronoun is sometimes used to avoid repetition of a noun. E.g., in *Rep.* 353d it has the sense of αὐτός (to avoid repetition of ψυχή). See also *Meteor.* 364a10 and *Pol.* 1306a11.

The position of μάλλον after the genitive of comparison is rare, but occurs¹⁵⁵. Postposition of the genitive is far more frequent. – θεῖον ἔχειν is unusual, τι θεῖον occurs, as, for instance, in *E.N.* 1153b32: πάντα γὰρ φύσει ἔχει τι θεῖον. – θείως ἔχειν would perhaps have been smoother.

If our interpretation is correct, Aristotle here formulates the primacy of being over knowledge. He may have done so in conscious opposition to Speusippus. See the commentary on b30. – One may compare the clause with *E.E.* 1248a27: λόγου δ' ἀρχὴ οὐ λόγος ἀλλὰ τι κρεῖττον. τί οὖν ἂν κρεῖττον καὶ ἐπιστήμης εἴποι πλὴν θεός; – Cf. also the commentary on b30 with regard to Speusippus' view concerning this point.

b24-30. καὶ ἡ θεωρία τὸ ἥδιστον καὶ ἀριστον. The clause takes up again the theme of b14-16. The νόησις καθ' αὐτήν is here called θεωρία, and Aristotle explains that God's activity is a life of everlasting contemplation¹⁵⁶. The ideal of a life devoted to speculative thought existed in the Greek world before Plato and Aristotle, yet it was first analysed, justified and strongly propagated by them¹⁵⁷. For Plato θεωρία, in the strict sense of the term, is the contemplative knowledge by which we consider the forms and ascend to the vision (ὄψις) of their supreme principle. This process comprises several stages and terminates in an immediate contact with supreme reality¹⁵⁸. Plato also uses θεωρία in the wider sense of a life dedicated to the contemplation of the forms and principles¹⁵⁹.

In Aristotle's works the term signifies in the first place the activity of seeing and observing¹⁶⁰, and furthermore philosophical contem-

δοκῶ' in *Class. Philol.* 5 (1910), 488-493, examines certain passages of Greek literature in which the verb appears to have the sense of 'to think right'.

¹⁵⁵ Cf. *Laws* 715d. – Since in Plato's dialogues postposition of μάλλον already occurs, one cannot use it to 'prove' that the chapter is late.

¹⁵⁶ On the derivation and meaning of θεωρία see the commentary on 1069a18.

¹⁵⁷ See W. Jaeger, 'On the origin and cycle of the philosophical ideal of life', in *Aristotle* (1948), 426-461; A. J. Festugière, in *Padeia* 9 (1954), 180-182; S. Mansion, 'Contemplation and Action in Aristotle's *Protrepticus*', in *Aristotle in the mid-fourth Century*, 56-75; C. J. de Vogel, 'Aristotele e l'ideale della vita contemplativa', in *Giornale di metafisica* 16 (1961), 452-457.

¹⁵⁸ Cf. *Rep.* 486a; 517d; *Theaet.* 172e. A. J. Festugière, *Contemplation*, 225-234.

¹⁵⁹ *Phaedo* 82c. Cf. *Epin.* 986e.

¹⁶⁰ Cf. *E.E.* 1231a3; *E.N.* 1122b17.

plation the object of which is what is above all knowable, τὸ μάλιστα τῶν ὄντων γινώριμον (*Protr.* fr. 14 (= Düring B 86)). This contemplation is seeing and insight, rather than study, comparison and reasoning.

In this passage Aristotle writes that this contemplation is the best and most pleasurable thing. The statement is not explicitly proved, but it would seem that the argument is that in this contemplation we reach our highest perfection and deepest self-understanding and actually 'become' the first being. Apart from this the statement is certainly supported by Aristotle's own inner experience.

Elsewhere Aristotle also writes that pure thinking is most perfect and pleasurable¹⁶¹. His words in *Protr.* fr. 14 deserve to be quoted: "Perfect and unimpeded activity certainly contains in itself delight, so that the activity of thinking must be the most pleasant of all"¹⁶².

Thus Aristotle links ἡδονή to knowledge¹⁶³, places it in God and so makes it a supreme value. Obviously, Aristotle here means a 'pure' type of pleasure, not the current notion of pleasure of the senses. Cf. *E.N.* 1154b26: ὁ θεὸς αἰεὶ μίαν καὶ ἀπλὴν χαίρει ἡδονήν. Plato's concept of pleasure was different, and prevented him from ascribing ἡδονή to the divine: "You know that for one who has chosen the life of intelligence there is nothing to prevent him living in this fashion," – "A life you mean of neither pleasure nor pain?" "Yes, for when we were comparing the lives just now we said, I believe, that for one who has chosen the life of reason and intelligence there must be no experiencing of any pleasure, great or small" (transl. by Hackforth). And in *Epin.* 985a we read: "a god who enjoys the fullness of deity is clearly above both pain and pleasure, though possessed of all-embracing wisdom" (transl. by Taylor)¹⁶⁴. A reader must keep in mind that in these passages Plato deals with pleasure as such, i.e., pleasure not associated with reason. Pleasure itself has a tendency to unlimited increase and so it has a note of imposture (ἀλαζονεία) about itself. Yet also to Plato certain types of pleasure, which accompany good activity or follow upon contemplation, are good: the supreme genus of wisdom can mix with this type of pleasure (*Phil.* 63b-64a).

¹⁶¹ *E.N.* 1174b20; 1153a1; 1177a17-27; *P.A.* 644b22 - 645a4.

¹⁶² Translation by Düring, B 87.

¹⁶³ On their precise relationship see the commentary on 1072b15-16. – As Schadewaldt writes, *op.cit.*, 122, Aristotle is quite close here to the position of Eudoxus.

¹⁶⁴ Cf. *Epist.* 3,315c: "the divine has its seat far removed from pleasure and pain".

As Hackforth observes, this position does not seem to be far removed from Aristotle's conception of pleasure as something which accompanies activity¹⁶⁵. Even on this assumption Aristotle's positive insistence on pleasure as being an essential aspect of supreme activity and the highest good, is quite novel.

εἰ οὖν οὕτως εὖ ἔχει ὡς ἡμεῖς ποτέ, ὁ θεὸς δὲ θαυμαστόν. Contrary to man who can only enjoy the bliss and peace of contemplation intermittently, God enjoys it for ever. – The opposition between ποτέ and δὲ occurs also elsewhere in the *Corpus*. Cf. *G.C.* 335b18; *Met.* 1052a5 and *E.N.* 1178b26: τοῖς μὲν γὰρ θεοῖς ἅπας ὁ βίος μακάριος, τοῖς δ' ἀνθρώποις ἐφ' ὅσον ὁμολῶμα τι τῆς τοιαύτης ἐνεργείας ὑπάρχει... ἐφ' ὅσον δὲ διατείνει ἡ θεωρία, καὶ ἡ εὐδαιμονία. Aristotle coined the expression ὁ ποτ' ὄν to designate the transient reality of contingent being, whereas τὸ δὲ ὄν signifies incorruptible things (*De caelo* 281b35). The sentence therefore implies the immutability of God¹⁶⁶.

E. Bignone reads in this line a sort of resignation: contrary to what he wrote in *E.N.* 1100a14 and 1111b20, Aristotle would no longer show any desire to attain a supra-terrestrial happiness; the best man can hope for would be an imitation, for short moments, of what God is for ever¹⁶⁷. – Bignone's conclusion is not contained in the text: ἡμεῖς refers to man's earthly condition and does not imply the denial of afterlife; Aristotle always knew that uninterrupted contemplation is impossible; chapter seven is most likely early and not, as Bignone thinks, late.

b25. εἰ δὲ μᾶλλον, ἔτι θαυμασιώτερον. If the never interrupted, eternal contemplation and pleasure of God are better than what man can reach in certain blessed moments, the happiness of God is the cause of even greater wonder and admiration. – G. E. L. Owen has drawn attention to what he considers to be a difficulty or contradiction in the metaphysics of this clause¹⁶⁸. According to Owen the doctrine that one thing can have a perfection in a higher degree than something else

¹⁶⁵ Plato's *Examination of Pleasure*, 129. – For the above survey I have made use of his excellent analysis.

¹⁶⁶ In *De anima* 430a5ff. Aristotle mentions the problem of why, if mind is immaterial, we do not always think. – This question is related to that of whether the active mind is σύμφυτος, or comes to man later. See Theophrastus apud Themistium, *In De Anima* 108,19-28. – Cf. also *Anal. Post.* II 19,99b25.

¹⁶⁷ *L' Aristotele Perduto e la Formazione Filosofica di Epicuro*, I, Firenze 1936, 1,77.

¹⁶⁸ In Düring and Owen, *Aristotle and Plato in the mid-fourth Century*, p. 184. – Owen does not actually speak about 1072b25, but of *Protr.* B 82 Düring.

is characteristic of Plato¹⁶⁹, and is contradicted by Aristotle's own rigorous logic, according to which the predicate must apply to the things compared in exactly the same sense¹⁷⁰. – It cannot be denied that the question of the more and less in predication is a difficult one. That Aristotle was aware of it, needs no further proof for the reader of *Cat.* 10b26-11a14 and *Top.* 137b14-27. Yet even when we admit that in the predication of the more and the less in the realm of sensible things, Aristotle requires that the same essence of the predicate must be found in the things compared, this by no means excludes that he had some sort of intuition that these terms when predicated of supreme reality would signify an essence which without ceasing to be what it is, is taken up into or transposed into this highest being¹⁷¹. We concede to Owen that this line of thinking comes more to the foreground in Plato's dialogues than in the extant works of Aristotle. Yet the very use of the terms θαυμαστόν and θαυμασιώτερον indicates that God's activity (and thus God's being) is something which man cannot fully understand¹⁷².

The clause beginning with εἰ οὖν (b24) is intended as a conclusion of the preceding argument, scil. since God is pure thought, he never changes and is for ever. The ἔχει δὲ ὥδε is the emphatic and emotionally tinged affirmation of this 'wonderful' being and activity of God.

b26. καὶ ζωὴ δὲ γε ὑπάρχει κτλ. Ζωή signifies the being of plants, animals and man, as appearing in their activity (*E.N.* 1097b33). In a more restricted sense it means human life, especially in as far as man is aware of it¹⁷³. Already the earliest Greek tradition ascribes to the gods a life that never decays¹⁷⁴.

Plato attributes immutable, timeless being to the highest principles,

¹⁶⁹ He points to the use of ὅντως ὄντα and μάλιστα ὄντα in the dialogues as well as to *Rep.* 587c-d. See also *Rep.* 585b.

¹⁷⁰ Owen quotes *Phys.* 249a3-8, *Cat.* 11a12-13.

¹⁷¹ For an explanation of this type of analogous predication the best ever written is Cajetan's Commentary on the *Summa Theologica* I, 13, 5 (ed. leonina no. VII): "ratio formalis sapientiae et ratio formalis iustitiae eleuantur in unam rationem formalem superioris ordinis, scilicet rationem propriam deitatis".

¹⁷² On the connection between θαυμάζειν and ignorance or lack of understanding see *Met.* 982b12-18; 983a12-23. Cf. also *Theaet.* 155d on the function of 'wonder' in Philosophy.

¹⁷³ E. Rohde, *Psyche*, II³ (1903), 303, n. 2.

¹⁷⁴ The gods are most aptly called ἀθάνατοι, cf. *Wörterbuch zum frühgriechischen Epos*, 196-205.

but in his earlier dialogues he does not say that they are alive¹⁷⁵. Rather he makes life a special form (αὐτὸ τὸ τῆς ζωῆς εἶδος) identified with soul and placed among or (immediately) after the forms¹⁷⁶. In *Soph.* 248e Plato goes beyond this position and ascribes life, soul and thought to τὸ παντελῶς ὄν. It would seem that this text is more than a statement that the form 'life' is one of the ideas or is related to them¹⁷⁷. If we understand τὸ παντελῶς ὄν as that which is in the highest degree in every respect being, this being is said to be alive. This would agree with *Tim.* 31b where the παντελὲς ζῶον is said to have a model. Hence one may assume that for Plato the world of ideas forms a quasi-organic whole and is alive with thought and is being thought¹⁷⁸.

Aristotle agrees with Plato on the principle that thinking involves activity and being known is an affection (*Soph.* 248d); he succeeds in establishing a scientific conception of life; sensation and knowledge are also forms of life (*De anima* 413a22). Plato had conceived life as an activity by itself and with regard to itself, i.e., as self-motion (*Phaedr.* 245c-e; *Laws* 895c). Also for Aristotle life is activity¹⁷⁹, and in intellectual activity he sees the supreme form of life¹⁸⁰. In *E.E.* 1245a9ff. Aristotle explains how he conceives of the relationship between living and knowing. First he points out that one desires to live always, because one desires to know, i.e., one wishes oneself to be the

¹⁷⁵ *Phaedr.* 246bc (θεὸν ἀθάνατον τι ζῶον ἔχον μὲν ψυχὴν, ἔχον δὲ σῶμα, τὸν δὲ δὲ χρόνον ταῦτα ἐνυμπεφυκότα) does not directly apply to the highest principle(s).

¹⁷⁶ *Phaedo* 106d. The words quoted probably mean that life is a transcendent form. See Hackforth, *Plato's Phaedo*, p. 160, n. 1. Cf. H. Morin, *Der Begriff des Lebens im 'Timaios' Platons unter Berücksichtigung seiner früheren Philosophie*, Uppsala 1965, pp. 28-32. — To Plato the notions of life and existence were implied by that of soul. At first he appears to have made soul one of the forms, but in the *Timaeus* he insists on the fact that soul mediates between the forms and sensible things.

¹⁷⁷ The following authors uphold a minimalizing interpretation: Cornford, *Plato's Theory of knowledge* 245; W. G. Runciman, *Plato's Later Epistemology*, Cambridge 1962, 81. — A. Diès takes τὸ παντελῶς ὄν to designate the totality of all things, so that Plato would make the remarkable statement that life and movement occur in the world... (*La définition de l'être et la nature des idées dans le 'Sophiste' de Platon*, 67 ff.).

¹⁷⁸ See C. J. de Vogel, in *Gymnasium* 1964, 459; *id.*, 'A la recherche des étapes précises entre Platon et le néoplatonisme', *Mnemosyne* 1954, 111-122, pp. 118-119.

¹⁷⁹ *Passim* in the *De anima*. Cf. *Pol.* 1254a7: ὁ δὲ βίος πρᾶξις.

¹⁸⁰ *E.N.* 1170a18: εἴκοιτο δὴ τὸ ζῆν εἶναι κυρίως τὸ αἰσθάνεσθαι ἢ νοεῖν. Cf. *Protr.* fr. 7 Ross (Düring B 75-76).

object known. This desire to make oneself an object is like returning to oneself. Thus knowledge belongs to the class of the determinate, — but life also does. Hence the genus of knowledge and the genus of life are intimately related, and imply each other¹⁸¹. — This line may therefore be considered a synthesis of Aristotle's doctrine of life as self-movement and of knowledge as the transformation of the self into the knowable.

The passus may be compared to *De caelo* 279a20, where Aristotle, speaking of reality beyond the first heaven, writes: ἀλλ' ἀναλλοίωτα καὶ ἀπαθῆ τὴν ἀρίστην ἔχοντα ζώην¹⁸². — The words ἡ γὰρ νοῦ ἐνέργεια ζωή were taken over by Plotinus, VI, 9, 9, 17: τὸ δὲ ἐκεῖ ζῆν ἐνέργεια μὲν νοῦ.

b27. The words ἐκεῖνος (Ab) δὲ ἡ ἐνέργεια mean that God (referred to in b25) is the activity of noûs; because this activity is life, God is life.

ἐνέργεια δὲ ἡ καθ' αὐτήν probably is an activity which is neither in a subject nor the actualization of a potentiality, but is always by itself (καθ' αὐτήν). Such an activity is never changing, is only itself, and hence is the highest form of life¹⁸³.

The term αἰδῖος first occurs in Hesiod and has the sense of everlasting. Plato uses it to signify the eternal being of the forms, but also that of the stars¹⁸⁴.

b28-30. Bonitz reads δὴ instead of δέ. Ross and Jaeger adopt this correction. δὴ is better, because these lines bring the conclusion. δὴ is resumptive and stresses the central assertion of the passus.

God is called a ζῶον αἰδῖον ἀριστον. Thus far Aristotle had spoken of the supreme principle in terms of actuality, thought and pleasure, but

¹⁸¹ Cf. *E.N.* 1170a19-21. In his *Aristoteles. Eudemische Ethik*, Berlin, 1962, 459-462. Dirlmeier points out that this way of arguing presupposes the doctrine of principles of the *De bono*.

¹⁸² A seemingly similar statement is θεοῦ δ' ἐνέργεια ἀθανασία, τοῦτο δ' ἐστὶ ζωή αἰδῖος, in 286a9. Yet this text refers to the activity of the ever-moving first heaven. In A 7 almost the same terms designate the activity of the supreme noûs. Cf. my *Aristotle's Cosmology*, 192.

In *E.E.* 1222b21-28 the term God is predicated of those principles which are a source of motion, but not of "the unmoved principles". This use of the term θεός — analogous to that of *De caelo* 286a9 — differs from that of A 7 where θεός designates supreme immovable reality. If this divergence has any special sense, it could be this that the former use is closer to a Platonic ontology, whereas in A 7 Aristotle would have further developed his doctrine of supreme reality as subsistent thought.

¹⁸³ The idea was taken over by Plotinus, II 5, 3, 36.

¹⁸⁴ *Phil.* 66a; *Tim.* 37e and *Tim.* 40b.

now he describes it in terms of an existing subject, viz. he calls it a living being. It is quite likely that Aristotle uses this expression to intimate that this 'ever active thought' is the highest reality (which to Plato was the world of forms)¹⁸⁵. – The description of the first being in terms of a subject closes this part of the chapter and facilitates comparison of this doctrine with other conceptions.

The life and duration (αἰών) of the first principle are said to be continuous. The term αἰών is rich in meaning: in Homer it signifies vitality, living stuff and its persistency, span of life. – It is not very clear how the term acquired the sense of 'a certain period', which it has in Pindar. Plato uses αἰών in the meaning of timeless eternity and in *Tim.* 37d-38e he describes αἰών as characterized by μένειν ἐν ἐνί. In this he closely follows Parmenides, who is the first to attribute everlasting, changeless duration to real being (B 8, 5). Since Plato also assigns ζώῃ to the eternal model of the world, he revives to a certain extent the Homeric sense of αἰών. In this he is followed by Aristotle in the *De caelo* I 9 and in this chapter¹⁸⁶. Thus αἰών denotes being always alive outside the flux of time. Aristotle makes these aspects explicit by adding ζώῃ and συνεχής. The latter term signifies in the first place an attribute of bodily being, viz. to be one to such an extent that one's parts coalesce (*Phys.* 219a12), but it can also denote a duration which is entirely one and never interrupted¹⁸⁷.

b30. τοῦτο γὰρ ὁ θεός. After having established the existence of a first principle and determined its nature and life Aristotle concludes by saying that this principle is God, i.e., that the attributes predicated of the divine in popular thinking or daily language must be assigned to this principle. This procedure had already been used by some of his predecessors, as, for instance, Diogenes of Apollonia, B 5: "And it seems to me that that which has intelligence is what men call air and that all men are steered by this and that it has power over all things. For this very thing seems to me to be a god... αὐτο γάρ μοι τοῦτο θεός δοκεῖ εἶναι" (translation by Kirk and Raven).

b30 - 1073a3. In this passus Aristotle states that in view of this well established doctrine of a first principle which is everlasting activity

those philosophers who hold the first being to be imperfect, are mistaken. The theory which ascribes perfection to the lowest or last level of being rather than to the first principle was upheld, Aristotle says, by some Pythagoreans and Speusippus¹⁸⁸. – In *Met.* 1092a11-15 (fr. 34e Lang) Aristotle again mentions the theory which reconstructs the genesis of the universe according to a pattern observed in the growth of plants and animals: the first principle is the One which is not even a being (μὴ δὲ ὂν τι). One of the reasons why the One is not called good, is that if it were good, its opposite (multiplicity) would be bad. This however cannot be maintained, since the plurality of things in this world involves some good. Therefore, the One is 'before the good'¹⁸⁹. Speusippus, apparently influenced by the mathematical speculations of Plato's later years, upheld a doctrine of principles in which reality evolved from the One through successive concretization. Textual evidence on this doctrine is fragmentary, but the following is certain: this evolution comprised 10 stages, i.e., descended from the supreme One to the Good, which was placed in the center of the world¹⁹⁰. The first principles were the One and plurality, and Aristotle mentions some stages of the successive levels of being, viz. numbers, magnitudes and soul. Since 'mind' and 'body' are also attested for, only two stages would be unknown. In this type of succession the more simple things seem to precede complex realities, and hence mind might precede observable reality. – It is possible that Speusippus believed that these principles belonged each to a level of being in the physical universe (the outer heaven, Saturnus, Jupiter, etc.), for Theophrastus says he assigned a place to the last stage, the Good¹⁹¹.

H. J. Kraemer, however, argues that the above series of ten stages has no solid base in the extant texts and that Speusippus' system of principles stresses above all the mathematical aspects of reality and consists of the following five stages: the one (multitude), separate mathematical numbers, separate mathematical magnitudes, soul,

¹⁸⁵ The expression recalls Plato's τὸ παντελὲς ζῶον of *Tim.* 31a-b.

¹⁸⁶ Cf. A. J. Festugière, in *La parole del passato* 9 (1948), pp. 173ff.; E. Degani, *AIΩN da Omero ad Aristotele*, Padova 1961; W. von Leyden, 'Time, number and eternity in Plato and Aristotle', in *The Philos. Quart.* 14 (1964), 35-52.

¹⁸⁷ Cf. *Eudemus* fr. 6 Ross: the first principle does not share in time, but exists for endless eternity (τὸν ἀπειρον αἰῶνα).

¹⁸⁸ Themistius, 24, 25, mistakenly writes 'Leucippus'.

¹⁸⁹ *Met.* 1091b30-35 (fr. 35a L).

¹⁹⁰ Theophrastus, *Met.* 6b5.

¹⁹¹ In part this sequence may be deduced from *Met.* 1028b18-24 and 1091b30. For the series of planets Speusippus may have followed the order which Plato assigned to them (*Dox. gr.* 344a17). There are good reasons to assume that the supreme principle was placed beyond the heavens. Cf. *Met.* 1092a14; *De caelo* 279a12; L. Robin, *Th.Pl.I.N.*, 512n. See also E. Frank, *Platon and die sog. Pythagoreer*, 131, whose reconstruction, however, met with little agreement.

sensible bodies¹⁹². Whatever system we adopt, it is not unlikely that mind preceded being, i.e., physical reality. In 1072b23 Aristotle affirms the contrary position and may well have had Speusippus in mind. When dealing with this theory we must remember that Speusippus did not construct any opposition between the Good and the One; rather, the One is present in the Good¹⁹³.

According to E. Frank lines b31-32 would be saying "according to what Speusippus holds that the Pythagoreans believe"¹⁹⁴. This stretching of the meaning of the clause is not necessary: even if in view of the deplorable lack of evidence about the details of Pythagorean theories, there is no direct support for what Aristotle says, it is quite likely that the Pythagoreans held such a theory. For 4th century Pythagoreanism a doctrine of principles is attested in which the One and the Unlimited are at the origin of numbers and of geometrical figures¹⁹⁵, and such a doctrine could easily develop into something close to what Speusippus held. In earlier Pythagoreanism this doctrine was understood dualistically, whereas in later Pythagoreanism a monistic interpretation prevailed¹⁹⁶. – The Pythagoreans seem to have made these numbers the principles underlying the different layers of the universe¹⁹⁷, so that numbers become the intrinsic reality of things.

Although Plato borrowed much from the Pythagoreans, his doctrine of principles is essentially different in as far as he sharply distinguished between transcendent being and sensible things¹⁹⁸. Speusippus appears to have adopted an intermediary position: on the one hand he rejected the realm of ideas, but on the other hand he did not completely identify sensible things and numbers¹⁹⁹.

Another peculiar aspect of this Pythagorean doctrine is the theory that higher numbers have a higher degree of perfection than lower numbers²⁰⁰.

In 1072b32ff. Aristotle refers to certain biological facts, as, for instance, the development of animals or plants from seed, which would

¹⁹² *Geistmetaphysik*, 208-210.

¹⁹³ *E.N.* 1096b5.

¹⁹⁴ *Op.cit.*, 243, n. 1.

¹⁹⁵ *Met.* 986a17ff.; 987a15ff.; *Phys.* 203a4; *Met.* 1036, b8.

¹⁹⁶ C. J. de Vogel, *Pythagoras and Early Pythagoreanism*, 204.

¹⁹⁷ Cf. *Met.* 990a18 and Alexander, *In Met.* 74,11.

¹⁹⁸ Cf. De Vogel, *op.cit.*, 192ff.

¹⁹⁹ *Met.* 1086a2-5; 1080b11-18.

²⁰⁰ Ross, II 381, draws attention to Theon Smyrn., *Theol. Arithm.* 55 Ast (Diels, Philolaos A 12), where this view is ascribed to Philolaos.

have been advanced by the Pythagoreans in support of their theory. The view which Aristotle mentions here evokes the doctrine of early Pythagoreanism, according to which the first unit is a seed, which develops within the unlimited, "drawing from the latter breath, time and the void". In this view the world grows like other living things²⁰¹. One encounters strikingly similar views in early Greek cosmogonies and it is not so surprising that Speusippus was influenced by them. – In these cosmogonies there is, however, usually question of a father from whom the seed comes forth²⁰². It is possible that this aspect was not mentioned by fifth and fourth century Pythagoreans.

In *Met.* 1091a33 and 1092a11-17 Aristotle brings what amounts to basically the same criticism of the theory which places perfection at the end of a process of evolution: he argues there that the perfect cannot come forth from the imperfect, a principle which in 1071b24 and 1072a9 is stated in terms of actuality and potentiality.

According to Jaeger this passus of A 7 was influenced by 1092a9-17: "There can be no possible doubt that N is the original and more complete version. It is much more precise. It brings out more clearly the fact that the principles of animals and plants of which both accounts speak, were held by Speusippus to provide an analogy to the 'principles of the universe' and that this is not a strict inference but a mere comparison."²⁰³. – Contrary to Jaeger I do not think that from these facts we can infer the priority of N 1092a9-17.

1073a3: *οτι μὲν οὖν*. The terms are quite frequently used at the closure of a chapter or an argument. Cf. *De caelo* 301b30; 301a20; 274b33.

The adversative *δέ* follows in 1073a5 (*δέδεικται δέ*).

κεχωρισμένον. The perfect participle denotes completed action with lasting result. Aristotle uses the term *κεχωρισμένον* to signify a local separation brought about by nature or man's action. Cf. *P.A.* 654b10; 655a35. As soon as there is contact one can no longer say that the two things are 'sundered'. The term is furthermore used to signify a void or place which would exist in separation from a body²⁰⁴. – In this

²⁰¹ *Met.* 1091a16; *De Pyth.* fr. 11 Ross; F. Cornford, *Plato and Parmenides*, 19.

²⁰² Kirk and Raven, *Presocr. Phil.*, 54-59; Guthrie, *HGrPh* I 278.

²⁰³ Aristotle, 223-224. H. von Arnim insists on the present tense of the verbs in 1072b30 - 1073a5, and suggests that this means that Speusippus was still alive when Aristotle wrote the passus (*Gotteslehre*, 55f.).

²⁰⁴ *Phys.* 216a21-26; cf. 211b19ff.; *De caelo* 302a1.

context, however, the supreme principle is meant which exists separately from sensible things. In this case the perfect tense does perhaps indicate that the formulation of the principle is the result of a deduction, or it stresses its difference from other principles which do not exist in separation from the sensible world.

φανερὸν κτλ. especially in 1072a24 ff.

a5. δέδεικτον κτλ. It is not so clear to what line in the chapter this refers. Ross thought to b7-11, in which it is perhaps implicitly contained. Bonitz saw no such reference and suggested that *Phys.* 266a10 ff. or 267b17 ff. might be meant²⁰⁵.

It is more tempting to consider these lines as the closing section of the lecture, which was added by the editors who borrowed it from elsewhere in the *Corpus*.

ὅτι μέγεθος οὐδὲν ἔχειν ἐνδέχεται κτλ. The construction of ἐνδέχεται with the accusative with infinitive is not so frequent in the *Corpus* but it does occur. Cf. Bonitz *Index* 249a60. – We may compare the statement with *Parm.* 137c (if the One would have parts, it would no longer be one) and *Soph.* 245a (what is really one is entirely indivisible). – Allan and Untersteiner pointed out certain close analogies of this section of A 7 with Albinus' *Epitome* X 7-8 and *De phil.* fr. 16 Ross²⁰⁶.

According to the former text the divine cannot have parts, for if it had constitutive parts, these parts would be prior to it; however, nothing can be prior to God²⁰⁷. – Then follows the argument that God had everything and that there is nothing into which he could be changed.

In *De Anima* 407a9 ff. Aristotle asserts that mind is not continuous in the sense in which a magnitude is; its activity is indivisible, transcending magnitude and time. Cf. 430b15.

Jaeger thinks that these lines are intended as a refutation of Presocratic conceptions which ascribed infinity to the divine (Anaximander, Melissus, Anaxagoras)²⁰⁸.

a7-11. In order to move during an infinite time infinite strength is required; a body of limited size does not have unlimited strength, and

²⁰⁵ A. Mansion agrees with Bonitz on this point. Cf. his 'Vooruitgang in Aristoteles' wijsgerige ontwikkeling', in *Tijdschrift voor Philosophie*, VII (1945), p. 136.

²⁰⁶ D. J. Allen, in *Class. Review* 70 (1956), 225; M. Untersteiner, *Aristotele, Della filosofia*, Roma 1963, 205.

²⁰⁷ This theory of priority is Platonic rather than Aristotelean.

²⁰⁸ *The Theology of the Early Greek Philosophers*, 27-30; p. 241, n. 34.

a body of unlimited size is impossible. Therefore the First Mover must have no size whatsoever²⁰⁹.

In this argument Aristotle assumes that the δύναμις increases with the size of the body. – In Presocratic philosophy δύναμις signifies the substance of things in as far as it has power²¹⁰. Cf. the Hippocratic treatise *De natura hominis* 5: ἕκαστον αὐτῶν ἔχει δύναμιν τε καὶ φύσιν τὴν ἑωυτοῦ. In his *Protagoras* 349b Plato writes: πρᾶγμα ἔχον δύναμιν ἕκαστον.

R. Mondolfo points out that the concept of infinity in this passus is that of οὐ οὐκ ἔστι πλείων (*De caelo* I 7; 12), but that in *Phys.* III, 7 Aristotle uses the term 'infinite' in the sense of the never entirely determined potentiality of first matter²¹¹.

a10. That there is no infinite body was proved by Aristotle in *De caelo* I, 5-7: the body which moves in a circle cannot be infinite and the four simple bodies are also finite so that all bodies must be finite; at last Aristotle gives some general reasons why there cannot be an infinite body²¹²; in *Phys.* III 5 he states again some of these arguments, to which he adds that there cannot be an infinite body, since a body is defined as that which is limited by a surface whereas the infinite has no surface. However, in the next chapter he sets forth in which sense the infinite can be said to exist.

a11. ἄλλα μὲν introduces another corollary of the argument of the preceding section²¹³.

Lines a11-13 purport to show that the First Mover is impassive and unchangeable. The reason given is that he has no local movement. Now without local movement there is no other change. This inference is perhaps based upon what was said in 1072a25 and b7²¹⁴, and thus

²⁰⁹ This argument is mentioned in *De caelo* 275b21-3 and discussed in detail in *Phys.* VIII 10; if the force of a finite body would be infinite, it would move another body in a time equal to that in which the force of an infinite body would do so. But that is impossible, for a greater force produces an equal effect in a shorter time.

²¹⁰ Cf. J. Souilhé, *Etude sur le terme ΔΥΝΑΜΙΣ dans les dialogues de Platon*, Paris 1919, 55 ff.

²¹¹ *L'infinito nel pensiero dell' antichità classica*, Firenze 1956, p. 458.

²¹² For an analysis of the arguments see my *Aristotle's Cosmology*, 101-126.

²¹³ See J. D. Denniston, *The Greek Particles*, 344.

²¹⁴ A. Mansion, *Revue néoscholastique* 1927, pp. 339-340, believes the inference to be based upon the argument that the First Mover is pure actuality and therefore is impassive. It would follow that there is no reference here to the *Physics*, but to A 6 and 7, esp. to 1071b12-22. However, since a12 explicitly refers to the absence of locomotion, Mansion's argument is not conclusive. Cf. Paulus, *op.cit.*, 408-410.

the lines confirm our interpretation that the ἀκίνητον must be understood as excluding local movement from the first principle.

By ἀπαθής Aristotle means that the first being does not receive any influence from the outside, as heat or cold, etc., and that it is not exposed to corruption²¹⁵. The attribution of ἀπαθής to the first being is traditional. Cf. Melissus fr. 7: (οὔτε ἀλγεῖ οὔτε ἀνιᾶται); Plato's *Tim.* 33a-b; *De caelo* 284a14. In *de Anima* 408b29 nous is said to be impassive (θειότερον τι καὶ ἀπαθές ἐστίν); *G.C.* 335b29 states that things without matter are impassive.

ἀναλλοίωτος, not subject to (qualitative) change. Plato assumes alteration to be consequent upon local motion²¹⁶. In his *De caelo* I and II Aristotle is still close to such a view which makes quality to an epiphenomenon of quantity²¹⁷. In his *Physics* he attaches more importance to quality, but nevertheless maintains that local motion is the primary type of movement; increase and alteration depend on it. The reason is that condensation and rarefaction, i.e., combination and separation, are the origin of all changes of quality²¹⁸. Moreover, change must be continuous; now local motion is the only movement which can be continuous; furthermore, local motion is movement which is acquired last by generable things; thus according to a general principle it must be prior in nature; finally locomotion affects least the essence of the things which move; thus it is primary.

These arguments are partly disproved by what Aristotle writes in the *De gen. et corr.* II 3. It would seem that 1073a3-14 reflects a way of thinking which precedes the *De gen. et corr.*

In a3-14 there is no reference to contemplation and the term 'God' does not occur. That in this last section of a chapter in which considerations of final and formal causality predominate, Aristotle recurs to the concepts of 'power' is also strange²¹⁹. It is not unlikely that the passus did not originally belong to the preceding text.

²¹⁵ Cf. *G.C.* 323b4ff.; 326a1; *Met.* 1019a27. — ἀπαθής does not exclude local movement: cf. *De caelo* 270b2.

²¹⁶ To Plato change of place, size, shape is primary and accompanied by changes in quality. Cf. *Laws* 897a; *Parm.* 138b; *Theaet.* 181c.

²¹⁷ The tripartition of movement is only mentioned once in the *De caelo*, viz. in 310a23.

²¹⁸ *Phys.* VIII 7. This explanation is close to the view of the atomists which is rejected by Aristotle in the *De generatione et corruptione*.

²¹⁹ J. Paulus, *op.cit.*, 408-409, draws attention to the incongruity of the passus with the doctrine of the previous pages and points out some parallelisms with *Phys.* VIII.

CHAPTER EIGHT

Since every eternal movement requires a cause and there are other eternal movements besides that of the first heaven, each of these requires an eternal substance as its mover. It is the task of astronomy to determine the number of these movers. According to the theory of Eudoxus there would be 26 spheres, and hence as many movers. If one follows Callippus, one must admit 33 spheres; adding the necessary counteracting spheres, there would be 55 spheres and hence as many movers.

There follows a short remark on the unicity of the physical world, and the chapter closes by saying that the ancients were right in as far as they thought that the primary substances are gods¹.

1073a14-17. As Jaeger has been quick in noticing, the language of the chapter, in particular that of the opening sentence, is different from that of the rest of *Λ*.

δετέον, 'must be assumed', 'must be stated'. The term sometimes concerns an assumption, sometimes the starting-point of an argument.

τὴν τοιαύτην οὐσίαν. The terms refer to the Unmoved Mover of chapter seven, and connect *Λ* 8 with the preceding discussion. However, since there are serious differences between *Λ* 8 and the surrounding chapters, it is not unlikely that, as often elsewhere in the *Corpus*, the opening lines were added or rewritten so as to connect the text with chapter seven.

δεῖ μὴ λανθάνειν, the subject of the verb are the ἀποφάσεις. The term ἀπόφασις as a derivative from ἀπόφαινω, meaning the sentence of an arbiter or judge, as well as an assertion, is rare in the *Corpus*. Cf. *Rhet.* 1365b27².

Aristotle repeatedly states his conviction that before we can fruit-

¹ For a discussion of the place of this chapter in book *Λ* and of its metaphysics, the reader may consult the Introduction VII.

fully study a particular subject we must first consider what previous philosophers said. Cf., for instance, *De caelo* 279b5-12.

In the following lines Aristotle only mentions the theory of ideal numbers, and this led some commentators as Merlan (cf. Introduction VII, n. 18) and Kraemer (*ibid.*, n. 29) to suppose that the 55 movers are intended to replace the ideal numbers. – It is not unlikely that certain members of the Academy, assigned numbers to the successive strata of the universe, as the Pythagoreans had done before. It is possible that in this case these numbers, depending on the One were assumed to be a cause of the movements of the spheres. If the 55 movers would have been substituted for the ideal numbers, it is hard to see how they can form one unified being as some assume they do (cf. Introduction VII, n. 29) because ideal numbers are ἀσύμβλητοι. It is, however, a fact that the opening lines of chapter eight evoke the climate of Academic thought in which the text was compiled, but the commentary of the entire chapter must establish whether the text is likely to have been written by Aristotle or not.

ὅ τι καὶ σαφὲς εἰπεῖν. "Ο τι here has an adverbial sense and restricts the assertion of the main clause³. καὶ has a similar function⁴. Cf. *Pol.* 1272b32: καὶ μήτε στάσιν, ὅ τι καὶ ἄξιον εἰπεῖν, γεγενῆσθαι. – Ellipsis of ἐστὶ is frequent in subordinated clauses beginning with ὅ τι or ὥς⁵.

a17. The correctness of the preceding statement might be questioned on the ground that those who hold the theory of ideas admit a plurality of principles. To such an objection this sentence answers that the partisans of the theory of ideas do not make a special study (σκέψις) of such a supreme οὐσία. By this Aristotle probably wants to say that the cause of movement is not sufficiently studied by them⁶.

ὕποληψις sometimes has the sense of signifying one stage in the process of knowledge, viz. the perception of a single universal, common to several individuals, but here it means a theory based upon assumptions and not on proven facts (Cf. *Rhet.* 1417b10; *Met.* 990b23; 1079a19), and in so far as it does it is almost synonymous with δόξα⁷.

In the following lines (a18-22) the author explains that he does not

³ ἀπόφασις, negation (ἀπόφνημι) is frequently used. It can signify the negation of a term, i.e., a negative term, as well as logical negation.

⁴ Kühner-Gerth, II 511 A 3.

⁵ Denniston, *op.cit.*, 294 B.

⁶ Kühner-Gerth, I 41 A 1.

⁷ Cf. *Met.* 988 b 2-3.

⁸ Cf. *Met.* 1078b12: ἡ περὶ τῶν εἰδῶν δόξα.

refer to the theory of ideas in general, but to the special formulation it got at the end of Plato's life and in the early Academy.

a18. According to this text the partisans of the theory of ideas hold that ideas are numbers⁸. This could either mean a complete identification of both or some sort of reduction of ideas to numbers. Xenocrates is assumed to have placed the objects of mathematics in the same class of being as the ideas, while he did not distinguish between ideal numbers and mathematical numbers⁹. Recently Ph. Merlan counselled prudence in ascribing such a complete identification to Xenocrates. Merlan thinks that Xenocrates may have singled out the objects of geometrics from such an identification¹⁰. – Plato himself did not identify ideal numbers and ideas¹¹. When he sometimes says that the ideas are numbers, he means that ontologically the ideas depend on numbers and are characterized by numbers¹².

a19. It is not clear who are those who believed in an unlimited number of ideal numbers. It is possible that Xenocrates or some of his disciples, who identified ideas and numbers, were led to admit this view, the more so since they also identified ideas with mathematical numbers. If so, they are likely to have admitted boundless plurality in the world of ideas¹³.

Other philosophers limited these numbers to ten. – In his long text on the relation between the theories of certain Pythagoreans and Plato's doctrine (*Met.* 987b14-988a15) Aristotle mentions the elements of the Forms, viz. the One and 'the Great and the Small'. From these the ideal numbers are generated. In the text it does not become clear whether these ideal numbers are to be placed between the One and the Forms or besides the Forms. Plato made them a series from 2 to 10¹⁴. This seems arbitrary: if there is two-ness, why can't there be

⁸ The expression οἱ λέγοντες ἰδέας is somewhat unusual (cf. however *Top.* 148a20 in the reading of the codex *Parisinus Coislinianus* 330, where εἶναι is omitted). More frequent is οἱ τιθέμενοι τὰς ἰδέας.

⁹ The evidence is quite strong: *Met.* 1028b24 and Asclepius, *In Met.* 379,17; the view is referred to in 1069a33; 1076a19; 1080b21; 1083b2; 1086a5. Cf. also Theophrastus, *Met.* 4a18-b5.

¹⁰ From *Platonism to Neoplatonism*, 40. Merlan points to texts as *Met.* 1028b24. Cf. also L. Robin, *Th.Pl. I.N.*, 295, n. 272 III.

¹¹ A fortiori mathematical numbers were different. Cf. *Met.* 1028b20.

¹² For the evidence and a discussion of it see Ross, *Plato's Theory of Ideas*, 216-220.

¹³ On Xenocrates' reduction of mathematical numbers to ideas see Xenocrates fr. 34 H; *Met.* 1028b24; 1069a33 (εἰς μίαν φύσιν τιθέντες τὰ εἶδη καὶ τὰ μαθη-

elevenness? The reason why Plato made the generation of these numbers stop at ten probably is that ten is 'perfect' and already contains all the species of numbers, viz. two and its powers, odd numbers and products of an odd number multiplied by two¹⁵. Furthermore, ten is the sum of the first four numbers, the sacred τετρακτύς of the Pythagoreans; Plato assigned science, opinion and sensation to 2, 3 and 4 and thus considered them as representing the entire cosmos¹⁶.

a22. μετὰ σπουδῆς ἀποδεικτικῆς. Σπουδῆ here denotes efforts in the intellectual field. Cf. *Met.* 1000a19.

Aristotle writes that far from imitating those philosophers who neglected to give any scientific proof or demonstration of their theories, we should start in this investigation from established facts (principles) and from definitions or well-established positions¹⁷.

a23. The first principle does not move at all, neither *per se* nor *per accidens*. A movement *per se* is a movement in virtue of or in respect of the essence; a movement is *per accidens* when "it merely belongs to or contains as a part a thing that causes motion or suffers motion"¹⁸.

Phys. VIII 6, 259b28-31 states that it belongs to some of the principles which move the celestial bodies, to be accidentally (i.e., secondarily) moved by another cause. Aristotle probably refers to the planets, sun and moon, whose spheres move with a complex movement determined by the carrying spheres. Judging from the context these movements are in addition to one essential movement, – a point on which this text differs from *A* 8. – In *Phys.* VIII 6 the distinction between moving accidentally and essentially is first applied to animals which move themselves with one essential movement (259b2), but

ματικῶς); 1080b21; 1083b2; 1086a5. – On the infinite in number see *Parm.* 144a; *Soph.* 256e; *Phil.* 17e, and R. Mondolfo, *L'infinito nel Pensiero dell' Antichità classica*, Firenze 1956, pp. 199ff.

¹⁴ *Phys.* 206b32 and *Met.* 1084a12ff.

¹⁵ In 1084a29-31 Aristotle criticizes this stopping short at the decade.

¹⁶ *De anima* 404b18-27 and Ross, *op.cit.*, 179. – On the Pythagorean theory of the decade see *Met.* 986a8. Chapter ten of the *Theologumena Arithmeticae*, a treatise attributed to Jamblichus, has a long passus on the perfection of the number ten. This passus is thought to have Speusippus as its source. See Merlan, *op.cit.*, 48-49.

¹⁷ The expression διατριμμένων δὲ τούτων indicates that after one theme has been dealt with the author turns to the next question. – In this context the term τῶν ὑποκειμένων is likely to mean the principles, established or admitted in the previous discussion or lecture.

¹⁸ *Phys.* 254b7-12 (Oxford Translation). Cf. *Phys.* 261a27-36; *G.C.* 315a28ff.

are accidentally moved by others, their environment and by the things that pass into them. But later in the same chapter Aristotle corrects himself and weakens his assertion that animals move themselves essentially. He then gives a further explanation of what it means to move oneself accidentally: the soul moving the body, e.g., causing it to walk, also moves itself locally *per accidens*.

If we apply this to *A* 8, the statement that the first principle is not moved at all means that it is not the revolving aether, nor can it be within the spheres or attached to them so as to be moved accidentally¹⁹.

a25. κινούν δέ. The contracted participle in apposition to ἡ ἀρχὴ καὶ τὸ πρῶτον τῶν ὄντων is active and τὴν πρώτην κίνησιν is its object²⁰.

a26. This line is also found in *Phys.* 256a2: ἀπαντα ἂν τὰ κινούμενα ὑπὸ τινος κινούτο. In *Phys.* VIII 4 this conclusion is based upon the fact that a thing which is moved, is reduced from a state of potentiality to actuality.

When a26 evokes *Phys.* VIII, it is quite likely that the following lines have also been influenced by it.

a27. καὶ τὴν αἰδίον κίνησιν ὑπὸ αἰδίου κινεῖσθαι καὶ τὴν μίαν ὑφ' ἑνός.

In *Phys.* VIII 6, 258b10 we read: ἐπεὶ δὲ δεῖ κίνησιν αἰετῆ εἶναι καὶ μὴ διαλείπειν, ἀνάγκη εἶναι τι αἰδίον δὲ πρῶτον κινεῖ (εἴτε ἐν εἴτε πλείω) καὶ τὸ πρῶτον κινούν ἀκίνητον. – The same thought recurs in 259a6 and a13. In the latter text Aristotle writes that it is necessary that there is one First and eternal Mover: since the revolution of the celestial bodies is one and continuous, a single cause is required²¹.

A comparison of these texts of *Phys.* VIII with *A* 8, 1073a23-28 indicates a number of similarities. The passus appears to be a concise summary of the doctrine of *Phys.* VIII.

a28. The term ὁρῶμεν introduces an observable fact into the theoretical formulation of the doctrine of movement. In the *De caelo* as well as in the *Meteorologica* observation of the cosmos is repeatedly mentioned²². Yet on numerous occasions observation serves as a

¹⁹ Plato suggested such an attachment in *Laws* 898e - 899a. – A. Mansion, *Revue néoscol.* XXIX (1927), p. 340, H. von Arnim, *Die Entstehung der Gotteslehre*, p. 71 and others think that the immobility *per se* and *per accidens* concerns the First Mover, but not the 55 other movers. On this question see the commentary on 1073a32-34.

²⁰ For some other instances where an accusative of the internal object is used see *Phys.* 257b25 and *De anima* 406a31: καὶ ἔτι τῷ κινεῖν τὴν κατὰ τόπον κίνησιν.

²¹ *Phys.* 259a18: μία δ' ἡ ὑφ' ἑνός τε τοῦ κινούντος καὶ ἐνός τοῦ κινουμένου.

²² Aristotle seems to have developed the concept of experimental science only gradually. See L. Bourgey, *Observation et expérience chez Aristote*, 105-113. Cf. *G.A.* 760b27-33.

confirmation of a conclusion reached along the lines of a priori reasoning, rather than as the basis from which Aristotle departs.

The movement of the first heaven is called *φορά*. This term is most properly said of things that do not move themselves²³ and is also used to describe the movement of the simple bodies²⁴. Its sense sometimes shifts from that of movement to that of the body which is carried²⁵.

The revolution of the first heaven is called *ἀπλοῦς* since it is always the same and is not composed of other, more simple movements; this revolution is the expression of the being of the first heaven²⁶.

a31. *τῶν πλανήτων*. The term signifies the wandering celestial bodies to which the Pythagoreans had assigned a place between the stars of the Milky Way and the sun²⁷. Plato does not yet have the term. In the (early) first Books of the *De caelo* the expression *ἐν τῶν ἄστρον* is used²⁸; in *Meteor.* 342b28 the term planet occurs, but when it was first used the term *ἀστὴρ* had still to be added. The occurrence of *πλανήτων* in A 8 is an indication that the chapter does not belong to the earliest works of Aristotle. – In spite of their irregular wanderings the planets are considered to be eternal, since whatever is beyond the moon is imperishable (a31-32).

a31-32. *ἄστατον*, never standing still. – The term does not occur in Greek of the classical period. It is found in Epicurus' *Epist. ad Menoeceum* 133,8 in the sense of unsteady, unstable.

τὸ κύκλῳ σῶμα. The expression is derived from *τὸ κύκλῳ φερόμενον σῶμα*²⁹, for in a passus where the latter terms occurs Aristotle uses shortly afterwards *τὸ κύκλῳ σῶμα*³⁰. The expression means the spherical body, celestial sphere and connotes movement in a circular orbit³¹. In the context it means the entire universe upwards from the natural

place of fire: this immense spherical body is eternal, but constantly revolving.

The remark is quite useless, conflicts with the following theory of many different spheres³² and may well be a gloss.

The reference in a32 is probably not to *Phys.* VIII 8, but to *De caelo* 286b1-9. Also elsewhere *εἴρηται ἐν τοῖς φυσικοῖς* or *τοῖς περὶ φύσεως* refers to the *De caelo* or the *De gen. et corr.*, as for instance, in *Met.* 989a24 and 1042b8.

a32. *ἀνάγκη κτλ.* The argument assumes that there are several spheres in the universe, i.e., that besides the sphere carrying the stars of the first heaven, each of the planets has its own revolving sphere. In *De caelo* 286b1-9 these revolutions are said to serve the purpose of producing the cyclical movement of the seasons. Cf. also *De gen. et corr.* II 10, and *Phys.* VIII 6.

In the preceding section it was shown that a First Mover is necessary to explain the movement of the first heaven; it is now postulated that there must also be unmoved movers of the spheres of the planets. Their nature must be similar to that of the First Mover³³. The principle that the mover is prior to the moved is also enuntiated in *Met.* 1010b37. *Met.* Θ 8 gives the reason: actuality precedes potentiality; now the mover is in a state of actuality³⁴.

Some commentators noticed that in a33 the words *ἀκινήτου κατὰ συμβεβηκός* are lacking (see above 1073a24) and concluded that these other movers, contrary to the absolutely unmoved First Mover, are movable *per accidens*, that is, they are moving along each with its own sphere with motions which they received from the enveloping spheres. This would create a certain dependence and subordinate these movers to the outer ones and to the First Mover. – Our text only provides a slender basis for this conclusion³⁵. However, *Phys.* VIII 6, 259b29-31 indicates that principles (*ἀρχαὶ τῶν ἐν τῷ οὐρανῷ*) within the planets, sun and moon are moved *per accidens* by the other spheres. The text does not say what these principles are, whether an intelligence or a soul or the ensouled nature of a planet or sphere. There is no sufficient evidence to identify them with the unmoved movers of A 8.

■ See P. Moraux, in *Quinta Essentia*, R.E. XXIV (47), 1207,18.

²³ Ps. Alexander, 706,32 draws attention to the fact that, contrary to the theory set forth in the *De caelo* B 12, there is no question in the text of souls, moving the stars.

²⁴ Cf. *Phys.* 257b9.

²⁵ See Paulus, *op.cit.*, 417-418.

²³ *Phys.* 226a34.

²⁴ *De caelo* 268b17.

²⁵ *Ibid.*, 292b26; 296b1.

²⁶ *Met.* 989b16; *De anima* 405a16; *Protr.* fr. 6 Ross (Düring B 64): τοῦ δὲ τὴν φύσιν ἀπλοῦ καὶ μὴ πρὸς τι τὴν οὐσίαν ἔχοντος μίαν ἀναγκαῖον εἶναι τὴν καθ' αὐτὸ κυρίως ἀρετήν.

²⁷ See B. L. van der Waerden, *Die Astronomie der Pythagoreer*, in *Mededelingen der Nederl. Akad. v. Wetensch. Afd. Natuurkunde*, Amsterdam 1951; Sir Thomas Heath, *Aristarchus of Samos*, 49ff.; W. und H. Gundel, *Planeten*, in R.E. XX, 2, 2017ff.

²⁸ *Πλανήτης* in 287a9 is probably an interpolation.

²⁹ *De caelo* 269b30; cf. also 268b18; 269a3 etc.

³⁰ 270a33.

³¹ Cf. *De caelo* 289b10 where it denotes each of the carrier bodies of the planets.

If we consider A 8 in itself, it would seem that in the cosmological system, as it is presented here, the movers are part of the system and move *per accidens*. If, on the other hand, one would try to harmonize the theory of A 8 with the rest of Book A, one would have to say that all the movers, being eternal, subsistent thought, are not moved at all.

a34. Since the spheres are an eternal οὐσία the movers also are, since they are certainly as good as that which is being moved by them.

The statement that that which is prior to οὐσία must also be οὐσία is strange when looked upon from the viewpoint of Aristotelian ontology. – For οὐσία means the subsistent being or perfection; *qua* οὐσία it has nothing prior to it, except, in a certain sense, its formal and material cause, but this is not what is envisaged in the context. The doctrine of the statement fits better in a Platonizing ontology, in particular in a system like that of Speusippus, who postulated a hierarchical series of οὐσῆαι³⁶.

This takes us to a second difficulty inherent in the theory expressed in these lines, viz. the text does not discuss at all whether the spheres subsequent to the First Heaven are the parts of a system in this way that once the first is set in motion the following derive their motion from it. – In certain texts, as for instance in *De caelo* II 10, Aristotle assumes that the first heaven is a decisive factor in causing the movements of the planets: it effectively retards the movements of the planets and the more so the closer they are to it³⁷. In this theory the planets are assumed to have a movement of their own which is modified, retarded and opposed by the influence of the movement of the first heaven. This theory is an attempt to account for the fact that the observed relative speeds of the planets increase descending towards the centre of the universe³⁸. It seems to derive from Platonic conceptions³⁹ and also to have been stated in the *De philosophia*⁴⁰.

³⁶ Cf. *Met.* 1028b21: Σπεύσιππος δὲ καὶ πλείους οὐσίας ἀπὸ τοῦ ἐνὸς ἀρξάμενος...

³⁷ Cf. also 284a6 with my commentary in *Cosmology*, 177.

³⁸ In these chapters of the *De caelo* two factors are said to determine the observed movement of the planets, viz. a natural movement and another movement which is superimposed upon it from the outside. – Saturn is slowest, the moon fastest.

³⁹ This theory is presented in detail in the myth of Er, *Rep.* X, esp. 617a-b. For Plato even the earth is moved with two contrary movements, the result of which is that it is at rest. See F. Cornford, *Plato's Cosmology*, 120-136.

⁴⁰ Fr. 26 Ross (Cicero, *De nat. deorum* I, 13, 33). With J. Skemp, *Plato's Statesman*, 98-101, I take the terms *replicatione quadam* to signify such a contrary movement. For other explanations see M. Untersteiner, *Aristotele. Della filosofia*, 258-259.

On the other hand, the theory described in A 8 makes the world a set of hardly related levels of being: each planet with its spheres becomes a self-contained system. It is difficult to make this agree with the theory stated above⁴¹. Rather it recalls the ontology of Speusippus who is said to have made the universe a poorly composed tragedy, the various acts of which are unrelated the one to the other, each having its own principles⁴².

Related to the problem of the serial nature of the universe is the question of whether the 55 movers form as many beings distinct from the First Mover mentioned in 1073a28 or could be thought of as immanent in it, as H. Jackson suggested⁴³. H. J. Kraemer supports this view⁴⁴, others reject it, although not always for the same reason. According to J. Owens the 55 movers have a distinct substance of their own, which, ontologically, is on the same level as that of the First Mover⁴⁵. K. Oehler, on the other hand, thinks that the other movers are on a lower level than the First⁴⁶. As the commentary has shown everything in the text makes us think that these movers as presented here are conceived of as locally present in or near the sphere which they move as an efficient cause, and form distinct beings. For differently from what happens in the case of final causality (by which the Unmoved Mover of A 7 moves the outer sphere), efficient causality requires contact between the cause and its effect (in *Laws* X Plato also assumes some contact (mediate or immediate) between the moving soul and the celestial body). – Presence of the movers in the different spheres does not seem to contradict that they are unmoved and eternal. This causes a problem: how can one reconcile this view with the theory of the First Mover as laid down in A 7? Various and often conflicting explanations have been advanced for which the reader may consult the Introduction VII.

a38. ἀνευ μεγέθους. See the commentary on 1073a5ff.

⁴¹ See H. J. Easterling, 'Homocentric Spheres in the 'de caelo'', in *Phronesis* 1961, 138-151.

⁴² *Met.* 1076a1 and 1090b19.

⁴³ 'On some passages in Aristotle's *Metaphysics*', in *The Journal of Philology*, (1904), 144.

⁴⁴ 'Grundfragen der aristotelischen Theologie' I, in *Theologie und Philosophie* 44 (1969), 363-382, p. 366.

⁴⁵ J. Owens, 'The Reality of the Aristotelian Separate Movers', in *The Review of Metaphysics* III (1950), 319-337, 334.

⁴⁶ In *Gnomon* 40 (1968), 641-653, p. 648.

1073b1-3. From the above it follows that the various spheres are substances and that there is a certain order between them which is the same as the order of their movements. Apparently the movers form a sort of chain, although *de facto* they are independent of each other⁴⁷. – The basic assumption here, as everywhere in A, is that movement is the expression of the being of a thing.

b3-8. The precise number of distinct movements and carrier bodies must be established by astronomy. – The following points deserve to be stressed: (a) in this passus a partition of the sciences is presupposed. The text speaks of philosophy and mathematics, but does not say explicitly which is the formal object of both. In the context mathematics is considered to be a science which considers quantity (separated from substance), whereas 'philosophy' studies substance. 'Philosophy' here could be taken to mean physics and/or theology. Astronomy studies mathematical facts in as far as they are related to physical being; this science belongs to mathematics in as far as its method is concerned, but to philosophy in as far as its object, the celestial bodies, are substances⁴⁸.

Aristotle does not seem always to have upheld such a clear cut distinction between mathematics and physics. For instance, in Book I of the *De caelo* he passes from mathematical facts to conclusions concerning physical bodies⁴⁹.

There are several texts which subordinate astronomy to mathematics⁵⁰; they probably reflect the state of things in those days, viz. that professional mathematicians also dealt with astronomical problems⁵¹.

G. Reale thinks that the text implies that there is a third science,

⁴⁷ Cf. I. Düring, *Aristoteles*, 215. Düring thinks that this statement has not been sufficiently noticed by commentators. Kraemer, *Kantstudien* 58, 318, sees in the term *τάξις* an indication of a relation between the theory of a series of movers and Academic thought.

⁴⁸ There is a difficulty in that *Met.* E 1 demands that the object of mathematics must be unmoved.

⁴⁹ This fading of the frontiers between physics and mathematics may well be of Platonic origin. For Plato mathematics in their perfect state become dialectical. In his later theory he incorporated mathematical entities into the class of principles of being.

⁵⁰ *Phys.* 194a7-8; *Met.* 989b32-33.

⁵¹ Cf. *P.A.* 639b7-10. Plato considered astronomy a science subsequent to geometry (*Rep.* 528e; 540d: ἀδελαφαί τινες).

viz. philosophy which deals with invisible things⁵². However, in the chapter there is no indication of a general science of being *qua* being.

(b) For the Platonists astronomy is not concerned with the visible aspects of the celestial bodies, but with their invisible principles⁵³. Aristotle here asserts that it deals with the physical being of the celestial bodies⁵⁴; his conception of this science seems to have developed⁵⁵.

(c) From the epistemological point of view it is also noteworthy that philosophy is said to need the help of other sciences. – In *Anal. Post.* I 13 Aristotle appears to uphold the position that one can scientifically argue about physical reality, without considering observable facts, but elsewhere we find evidence of the view that empirical studies must be the basis of science⁵⁶.

The division of sciences in this passage is not sufficiently explicit as to allow us to reduce it to that of *Met.* E 1 or, even less, to the division of reality in A 1⁵⁷.

1073b7. Arithmetic and geometry do not concern the being, i.e., the existence of things. In *Met.* 1026a8 Aristotle likewise seems to reject implicitly the Platonic thesis that subsistent realities are the objects of mathematics. According to 1092a17-21 mathematics are not concerned with individual things in the physical world⁵⁸.

The terms 'arithmetic' and 'geometry' were probably first brought together under the common name 'mathematics' by fifth century Pythagoreans⁵⁹.

b8. *φωρά* here means the *movements* by which the planets are carried along rather than the physical spheres.

ἡμμένοις. For an example of *ἀπτεσθαι* in the sense of 'to deal with', 'to study', cf. 1078b20. The perfect tense indicates that study over a long period is required to understand the complexity of the movements of the planets.

⁵² *Teofrasto*, Brescia 1964, 115-116.

⁵³ *Met.* 997b16; b35 (οὐδὲ περὶ τὸν οὐρανὸν τόνδε); 1077a1-3. On Plato's conception of astronomy see *Rep.* 528e - 530c and K. Gaiser, *Die ungeschriebene Lehre*, 392.

⁵⁴ With Bonitz, Ross and Jaeger we should read *φιλοσοφία* in b4.

⁵⁵ See A. Mansion, *Introduction à la physique aristotélécienne*, 190.

⁵⁶ See *De caelo* 291a31; *G.A.* 760b27-33; Bourgey, *op.cit.*, 105; 113.

⁵⁷ H. J. Kraemer, however, thinks that there is such a relation with the division of reality of A 1 and that of Xenocrates. Cf. his *Geistmetaphysik*, 173-175.

⁵⁸ Cf. also *Phys.* 208b22-25.

⁵⁹ See Heath, *Hist. of Gr. Math.*, I 11.

πλείους γάρ... This is an accusative of internal object, where the noun φοράς has not been repeated, connoting an accusative of extent.

b12. ἐννοίας χάριν, to have an idea of the subject. – In Plato's dialogues the term ἐννοια signifies the notion or understanding one has of something; it is sometimes said to be the result of a concentrated intellectual effort⁶⁰. In the *Corpus* it is rare. Jaeger thought that the terms indicate the hypothetical character of the entire chapter, but it is more likely that the expression only qualifies the astronomical theories advanced and not the metaphysical principles of the chapter⁶¹.

ὅπως ἢ τι τῇ διανοίᾳ πλῆθος ὀρισμένον ὑπολαβεῖν. – διανοία signifies the faculty of thinking and judging as well as its activity. It is to be distinguished from νοῦς, the immediate grasping of basic concepts and ultimate truth⁶². Διανοία may be mistaken, since it deals with several concepts which it compares with one another and which it judges⁶³.

ὑπολαμβάνειν signifies to give assent to a view which may vary in certitude from ἐπιστήμη to δόξα. Frequently the verb denotes the result of the process of διανοία. Here the term means to adopt a theory proposed by empirical science, which may serve as a starting-point for philosophical reasoning.

πλῆθος ὀρισμένον. It is the task of science to impose or make visible order in the manifold phenomena. This order means that through division and definition things are known and are assigned their place in reality⁶⁴.

b13. τὸ δὲ λοιπόν. I take this to refer to new facts observed in astronomical observations or to certain conclusions which differ from what was up to that moment admitted by the specialists. – The αὐτοῦς of line b14 probably means members of the school.

τοῖς ταῦτα πραγματευομένοις is probably related to εἰρημένα as a dative of the agent, and not to φαίνεται. The latter verb is used absolutely, as often elsewhere in the *Corpus*⁶⁵. – The dative of the agent

⁶⁰ Cf. *Phaed.* 73c; *Tim.* 47a (χρόνον ἐννοῖαν); *Law* 657a (δξιν ἐννοίας); *Def. plat.* 414a10.

⁶¹ Jaeger, *Aristotle* 350. To the contrary Reale, *op.cit.*, 116.

⁶² Cf. *Met.* 1027b27-29. – On διανοία see Kl. Oehler, *Die Lehre vom noetischen Denken bei Platon und Aristoteles*, München 1962, 170-181.

⁶³ *De anima* 432a16.

⁶⁴ Cf. *E.N.* 1142b11 and *Phaedrus* 265d: εἰς μίαν ἰδέαν συνορῶντα ἄγειν τὰ πολλαχῇ διεσπαρμένα, ἵνα ἕκαστον ὀριζόμενος δῆλον ποιῇ... – From Homer onward the Greeks tried to 'define' things and events. Cf. W. Schadewaldt, *Von Homers Welt und Werk*³, Stuttgart 1959, pp. 130ff.; *Met.* 987a19ff.; 1078b17ff.

⁶⁵ See Bonitz, *Index* 808b52ff.

employed with the perfect tense is frequent in Greek and Aristotle also uses it⁶⁶.

b16. φιλεῖν μὲν... In the famous parallel of *E.N.* 1096a16 love of Plato and love of truth are compared, but here two groups of astronomers.

πείθεσθαι δὲ τοῖς ἀκριβεστέροις. In the *Corpus* the term ἀκριβής is almost exclusively applied to arguments, knowledge and cognitive faculties, art and skill, very seldom to persons⁶⁷.

The principle that the phenomena are to be saved is implicitly contained in this passus. As J. Mittelstrass argues the credit for clearly formulating this methodological principle goes to Eudoxus⁶⁸. Yet the idea is already expressed by Plato in his *Timaeus*, 56a, who may not yet have known Eudoxus' astronomical theory when he wrote this dialogue⁶⁹.

1073b17-32. In the preceding lines Aristotle spoke of the need to consult professional astronomers. In agreement with this he now gives the theory of Eudoxus on the movements of the celestial bodies.

Eudoxus of Cnidos, undoubtedly one of the greatest mathematicians of all times, was born about 408 (?) and passed away 53 years later⁷⁰. Apart from his contributions to geometry his theory of pleasure, discussed by Aristotle in *E.N.* I 12, deserves to be mentioned. En-

⁶⁶ See, for instance, *Rhet.* 1381a16.

⁶⁷ An examination even of mistaken views will help us to find the truth. See *De anima* 403b23.

⁶⁸ *Die Rettung der Phänomene*, Berlin 1962, 149ff.

⁶⁹ See J. Skemp, *The Theory of Motion in Plato's Later Dialogues*², *Addenda*, 142-146.

⁷⁰ K. von Fritz, 'Die Lebenszeit des Eudoxos von Knidos', in *Philologus* 85 (1930), pp. 478-481, argues that it is better to date Eudoxus' life from 400 to 346 rather than from 408 to 354. – Ph. Merlan, *Studies in Epicurus and Aristotle*, 98; 104 sets Eudoxus' lifetime between 395 and 342, but his ingenious argument is not quite convincing.

After F. Susemihl, *Rhein. Mus.* 53 (1898), 626ff., F. Lassère, *Die 'Fragmente' des Eudoxos von Knidos*, Berlin 1966, p. 138, proposes 390 as the year in which Eudoxus was born. He relies on frag. 342 (59 Maass) (Plinius, *NH* XXX 3), according to which Eudoxus would have written that Zoroaster lived 6000 years before Plato's death, i.e., would have survived Plato. If with recent scholars we date Eudoxus late, and agree with Jaeger that the imperfect tense in this section of A 8 is an indication that Eudoxus had already passed away when the text was written, A 8 could hardly be an early treatise.

⁷¹ Simplicius, *In De caelo* 488,27; 492,31. – An attempt to explain the movements of the celestial bodies by considering them to be the result of a composition of other, more basic movements was first made by Plato in *Tim.* 36c-d.

couraged by Plato⁷¹ he developed a most ingenious theory to account for the seemingly erratic wanderings of the planets: he conceived a number of homocentric spheres which by their revolutions contribute to the composite movements of the planets. The poles of one sphere are assumed to be fixed at the enveloping greater sphere and move with it. The planets are located in a point at the innermost of such a set of three or four spheres. We do not know whether Eudoxus ascribed any physical reality to the spheres.

Apart from the concise explanation in A 8 there is an elaborate text on this theory in Simplicius' commentary on the *De caelo*, who has his information from Sosigenes, a member of the Peripatetic School in the second century A.D. This Sosigenes seems to have had a book by Eudoxus entitled *περὶ ταχῶν* which was subsequently lost, and so Eudoxus' theory has to be reconstructed with the help of the information Simplicius gives us. This was done by Schiaparelli⁷², who has been followed by others like Sir Thomas Heath⁷³.

Eudoxus assumes the celestial bodies to describe perfect circles. This shows again to what extent the desire for clarity and regularity influenced Greek thought⁷⁴.

Simplicius does not say how Eudoxus explained the origin of the movement of the spheres. He may have placed ideas in the spheres⁷⁵, and made these the cause of their movement: Aristotle in a context where he speaks of Eudoxus twice denies that ideas could contribute anything to the movement of the stars⁷⁶.

Although there is no evidence which compels us to think that Eudoxus considered his circles or spheres physical bodies, such a conclusion is almost unavoidable for a philosopher. Now, the view according to which there are concentric circles or spherical bodies in the world dates

from the earliest days of Greek scientific philosophy: Anaximander conceived the celestial bodies as set in a ring of fiery material which flames up in the stars and planets and he probably assigned a spherical limit to the Boundless surrounding the cosmos⁷⁷. Parmenides' cosmology seems for a considerable part to have been directly adapted from Anaximander's theory of fiery rings⁷⁸. To Parmenides the cosmos consists of a solid outer envelop, a band of fire, a mixed band (the Milky Way, the planets, the sun and the moon), a band of fire at the inner side of which begins the atmosphere, and the earth itself⁷⁹.

Then the early astronomers came to notice the fact that the so-called planets describe paths which are encompassed by a belt or ring extending approximately 8 degrees on each side of the ecliptic. This belt can be divided into zones, according to the constellations (i.e., the so-called signs of the zodiac) which lie beyond it in the sphere of the fixed stars. The geometer Oenipides of Chios probably was the first to speak of one such belt and to state the obliquity of 'the circle of the zodiac'⁸⁰. Its angle of inclination was probably known to the Pythagoreans⁸¹.

In 1073b18-22 Aristotle writes that according to Eudoxus three spheres account for the movement of the moon, viz. the sphere of the fixed stars, the sphere which passes through the middle of the bodies of the zodiac, and a third sphere which moves in a circle latitudinally inclined to the plane of the zodiac⁸².

At first sight it is not clear why Eudoxus felt that a third circle is necessary to explain the movements of the sun and the moon. Simplicius answers that the moon is observed not always to reach its highest north and south latitude at the same points of the zodiac, and hence a third sphere is necessary to explain these deviations⁸³. The same holds true for the sun which does not rise at the same point at the summer and winter solstices⁸⁴. Schiaparelli pointed out that in reality this deviation does not exist. The Greek astronomers were perhaps led

⁷⁷ See Ch. Kahn, *Anaximander and the Origins of Greek Cosmology*, New York 1960, p. 91.

⁷⁸ Heath, *op. cit.*, 66.

⁷⁹ *Ibid.*, 72.

⁸⁰ Aetius II 12,2 (*Doxogr. gr.* 340-341).

⁸¹ Heath, *op. cit.*, p. 131, n. 4.

⁸² The circle in which the moon moves has a greater latitudinal inclination than that in which the sun moves. — *λελογωμένον*, from *λοζόω*, 'make slanting'.

⁸³ In *De caelo*, 495,10-13.

⁸⁴ *Ibid.*, 493,15-17.

⁷² Schiaparelli, *Le sfere omocentriche di Eudosso, di Callippo e di Aristotele*, in *Pubblicazioni del R. Osservatorio di Brera in Milano*, no. IX, Milano 1875.

⁷³ Aristarchus, 193-224.

⁷⁴ We encounter this assumption already in *Rep.* 530d, where it is ascribed to the Pythagoreans. In *Laws* 822a Plato writes that the irregularity of the movement of the planets is only apparent. On this text see W. Burkert, *Weisheit und Wissenschaft Studien zu Pythagoras, Philolaos und Platon*, Tübingen 1962, p. 309, n. 34.

⁷⁵ Eudoxus conceived the ideas as present in bodies. Cf. Alexander, *In Met.* 97, 17-19; K. von Fritz, 'Die Ideenlehre des Eudoxus von Knidos', in *Philologus* Bd. LXXXI (1926), 1-26; H. Karpp, *Untersuchungen zur Philosophie des Eudoxos von Knidos*, Würzburg 1933, p. 34.

⁷⁶ *Met.* 991a9; 1079b21.

to assume a deviation in the sun's path on the basis of an argument by analogy with the deviations observed for the other planets⁸⁶.

In his explanation of Eudoxus' theory of the spheres Heath draws attention to a difficulty⁸⁶: the text of A 8 creates the impression that the zodiac sphere has the same role in moving the sun and moon which it has in the case of the other planets, viz. that of causing their movement in longitude. However, in the case of the moon this assumption leads to results which conflict with the observed facts: it is the third sphere which produces the monthly revolution from west to east, whereas the second sphere carries the moon (resp. the sun) back with a retrograde movement along the ecliptic. This was undoubtedly the view of Eudoxus. – How to explain that the author of A 8 missed this point? Aristotle himself was not a professional astronomer, yet we may assume that he was very well informed about the theory of Eudoxus⁸⁷. Simplicius writes that Aristotle together with Callimachus corrected the theories of Eudoxus⁸⁸. If this statement is more than a mere inference from A 8, it shows an Aristotle well acquainted with the more intricate aspects of Eudoxus' calculations. For this reason it becomes doubtful whether Aristotle wrote this defective summary himself.

b22. Eudoxus assumed that the movement of the planets is the result of the motions of four spheres, of which the first two have the same role as those of the sun and moon; the third sphere has its poles fixed in points on the second (the position of these points is different for the different planets, except for Mercury and Venus); the motion of these third spheres is uniform. The text does not say in what direction Eudoxus assumed this sphere to rotate (Schiaparelli showed that the direction of the rotation does not make any difference to the argument).

The poles of the fourth sphere are fixed on the third. The angle at which for each planet the axis of the fourth sphere is inclined to that of the third is the same for all planets.

Following the indications given by Simplicius⁸⁹ Schiaparelli succeeded in reconstructing the path which results from the motions communicated by the third and fourth spheres. He did so without

using spherical trigonometry and analytical geometry, but with the help of elementary geometrical considerations, which must have been known to Eudoxus. The result he obtained was a spherical lemniscate, which seems to be precisely the figure which Eudoxus called hippopede. In a simplified form this may be described as follows. The outer sphere rotates uniformly about the diameter A B, the second homocentric sphere about C D. A point P on the equator of this second sphere will describe a path like a figure eight on the surface of this sphere.

As to the value of Eudoxus' calculations Heath writes as follows: "For the sun and moon the hypothesis of Eudoxus sufficed to explain adequately enough the principal phenomena, except the irregularities due to the eccentricities, which were either unknown to Eudoxus or neglected by him. For Jupiter and Saturn, and to some extent for Mercury also, the system was capable of giving on the whole a satisfactory explanation of their motion in longitude, their stationary points and their retrograde motions; for Venus it was unsatisfactory, and it failed altogether in the case of Mars. The limits of motion in latitude represented by the various *hippopedes* were in tolerable agreement with observed facts, although the periods of the deviations and their places in the cycle were quite wrong. But, notwithstanding the imperfections of the system of homocentric spheres we cannot but recognize in it a speculative achievement which was worthy of the great reputation of Eudoxus and all the more deserving of admiration because it was the first attempt at a scientific explanation of the apparent irregularities of the motions of the planets"⁹⁰.

b31. The names Aphrodite and Hermes are not accompanied by ἀστήρ. It is only relatively late that these names came into use to designate the planets⁹¹.

b32. Eudoxus made a great impression on his contemporaries⁹². He died at the relatively young age of 53. – About Callippus, who as the text says, improved this theory, we are not well informed. Simplicius writes that he studied with Polemarchus of Cyzicus, a friend of Eudoxus⁹³, and that he followed him to Athens. Besides this scant information there is a note in Geminus, *Isagoge* VIII, on a reform of the

■ Quoted after Heath, *op.cit.*, 199.

⁸⁶ *Op.cit.*, 197.

⁸⁷ Cf. *De caelo* 292a3-6.

⁸⁸ *In De caelo* 493,5-8.

⁸⁹ *Ibid.*, 496,23 - 497,5.

⁹⁰ *Aristarchus*, 211.

⁹¹ Cf. Gundel, *Planeten*, in *R.E.* XX 2, 2017ff.; *Tim.* 83d; *Epinomis* 987b; *De caelo* 292a5; Theophrastus, *περί σημείων* VI 46.

⁹² Cf. *E.N.* 1172b9-18 and *D.L.*, VIII 91: τοῦτον ἀντὶ Εὐδόξου Ἐνδοξὸν ἐκάλουν διὰ τὴν λαμπρότητα τῆς φήμης.

⁹³ *In De caelo* 504,17 - 506,3.

Athenian calendar, with which he is reported to have been charged⁹⁴. Simplicius says about him: μετ' ἐκεῖνον εἰς Ἀθήνας ἐλθὼν, the obvious meaning of which is that Callippus went to Athens *shortly* after Polemarchus. Now Polemarchus being a friend of Eudoxus, is likely to have gone there during the latter's later years or at his death. This would mean that Callippus went to Athens not much later than 355, and that he probably was in contact with Aristotle during the last years of Plato's life. Simplicius does write indeed that Callippus "stayed with Aristotle correcting and completing with his help the discoveries of Eudoxus"⁹⁵. Most authors refer this to the time of Aristotle's second stay in Athens during the reign of Alexander the Great (336-323), but I would suggest that it applies to the years 355-347, for the reason given above as well as because we know from the *De caelo* that Aristotle was engaged in astronomical observations about 357⁹⁶. It would also be surprising if Aristotle had waited some 20 years in trying to verify and correct Eudoxus' theories, in spite of the fact that certain of their defects must have soon caught the eye. – That Callippus was in Athens about the year 330, charged with the correction of the luni-solar calendar of Meton⁹⁷, does not at all imply that he was not in Athens about 20 years earlier. The opposite seems more likely, viz. that he had first gained a solid reputation as an astronomer before the Athenians entrusted him with the important task of the calendar reform.

b32. θέσις here means the position of the stars relative to each other, in particular the angle of inclination of the axis of one sphere with the equatorial plane of the enclosing sphere⁹⁸.

τοῦτ' ἔστι... τὴν τάξιν must be a gloss by a reader who had not understood the meaning of the passus, for in the context there is no question of distances. Ross and Jaeger also excise it.

To account for the motions of Jupiter and Saturnus Callippus kept the same number of spheres; Eudoxus' hypothesis had given an excellent account of them. – He added one sphere to the systems of Mars and Venus each, and two to those of the sun and the moon respectively.

⁹⁴ See Κάλλιππος, in *R.E. Suppl. Bd. IV* 1431.

⁹⁵ *Op.cit.*, 493,5-8.

⁹⁶ 292a3 mentions an observation of the eclipsing of Mars which occurred on May 4, 357 B.C., at 9 p.m. Athens time. See J. Schoch, *Planetentafeln für Jedermann*, Berlin 1927.

⁹⁷ See *R.E. X* 2, 1662-1664, 'Kallippische Periode'.

⁹⁸ For this use of θέσις cf. Ch. Mugler, *Dictionnaire Historique de la terminologie géométrique des Grecs*, 219. – For its distinction from τάξις see *Met.* 985b13.

b36. τὰ φαινόμενα ἀποδώσειν. For a similar expression see *De caelo* 306a3-17, and *Meteor.* 341b6. In a sense all Greek astronomers tried 'to save the phenomena'⁹⁹. Yet they may occasionally have been so carried away by their theories, as to neglect verification. According to *De caelo* 306a3-17 in certain sciences the *result obtained* is decisive, i.e., it should be in conformity with reality¹⁰⁰.

Before turning to an analysis of the corrections by Callippus, we must deal with the question of the use of the imperfect tense in this passus. Jaeger suggests that the most natural explanation is that both Eudoxus and Callippus had died at the time these lines were written¹⁰¹. I do indeed think that the use of the imperfect tense creates a slight probability that the text was written after Callippus' death, i.e., perhaps even as late as 310.

Simplicius, *In De Caelo* 497,15ff. says that in his day no book by Callippus on the subject was extant, but that Eudemus gave as reason for the addition of new spheres the fact that Callippus had observed certain irregularities in the movements of sun and moon, which Eudoxus' theory could not account for. As to the planets he does not provide any information, but the reason for the correction probably was the same as in the case of the sun and the moon. Schiaparelli shows that the addition of one sphere to the four which Eudoxus had assigned to Mars, Venus and Mercury each gives an excellent account of their paths¹⁰².

Simplicius quoting from Eudemus writes that the reason why Callippus added two spheres to the three which Eudoxus had assigned to the sun and to the moon each, was to account for the irregular movement in longitude which Meton had discovered¹⁰³. In the case of the sun the addition of two new spheres, enclosed by the three spheres of Eudoxus, rotating with the same speed, but in opposite directions, their axes inclined about 2° to that of the third sphere, yields a slight deviation in the path of the sun in the form of a hippopede along the

⁹⁹ *Tim.* 56a and Sosigenes ap. Simpl., *In De caelo* 488,21-24. Cf. J. Mittelstrass, *Die Rettung der Phänomene. Ursprung und Geschichte eines antiken Forschungsprinzips*, Berlin 1962.

¹⁰⁰ L. Bourgey, *op.cit.*, 60, n. 8.

¹⁰¹ *Aristotle*, 343.

¹⁰² See Heath, *op.cit.*, 213-5.

¹⁰³ See K. von Fritz, *R.E. XVII*, 225f.: Callippus corrected the measurements of Meton and assigned to spring, summer, fall, autumn the corresponding lengths of 94, 92, 89 and 90 days. Cf. also 'Kallippos', in *R.E. Suppl. Bd. IV* 1431-1438.

ecliptic, which excellently explains the apparent movement observed.

The reason why Callippus added two new spheres to those of the moon probably also was to account for the irregularity or inequalities in the longitudinal motion of the moon.

The great importance of this last correction was that it seems to have introduced the notion of a 'reacting sphere' to neutralize the new rotation brought about by the fourth. This may have suggested to Aristotle the idea of resorting to reacting spheres when he attempted to integrate the mathematical construction of Eudoxus and Callimachus into his own cosmology.

To Aristotle the universe cannot consist of bodies separated by the void. In *Phys.* IV 5-8 he argues decisively against the various ways in which certain natural philosophers had conceived the existence of a void. Aristotle points out in particular that local movement does not presuppose it. — Denying the void, he had to devise substances which occupy the space between the celestial bodies. This was the more necessary since he conceived of the cosmos as one whole¹⁰⁴. — Thus Aristotle came to formulate a theory in which the circles of Eudoxus become spherical bodies, the one enclosed in the other¹⁰⁵. According to Schiapparelli¹⁰⁶ this system works as follows:

"The different sets of spheres being merged into one, it is necessary to provide against the motion of the spheres assigned to a higher planet affecting the motion of the spheres assigned to a lower planet. For this purpose Aristotle interpolated between the last (the innermost) sphere of each planet and the first (or outermost) sphere of the planet next below it a certain number of spheres called 'reacting' spheres. Thus, suppose A, B, C, D to be the four spheres postulated for Saturn, A being the outermost and D the innermost on which the planet is fixed. If inside the sphere D we place a first reacting sphere D' which turns about the poles of D with equal speed, but in the opposite sense to D, the rotations of D and D' will mutually cancel each other and any point of D' will move as though it was rigidly connected with the

¹⁰⁴ Cf. the commentary on 1069a19, and *De phil.* fr. 22 where the world is called a ζῶον λογικὸν ἀθάνατον.

¹⁰⁵ This reconstruction by Aristotle is not entirely new. In *Tim.* 38c Plato writes that the god set the planets in τὰς περιφοράς, a term which means circular motion, circular track, but in 36b-d he speaks of the circles of the celestial bodies in such a way that there is no doubt that he assumed them to have physical reality. Cf. also *Laws* 898e: ἐν τῷ τῷ περιφερῇ τοῦτω φαινόμενῳ σώματι.

¹⁰⁶ Quoted after Heath, *op.cit.*, 218-219.

sphere C. Again, if we place inside the sphere D' a second reacting sphere C' rotating about the same poles with C and with equal speed, but in the opposite sense, the rotations of C and C' cancel each other, and any point of C' will move as if it were rigidly connected with the sphere B. Lastly, if inside C' a third reacting sphere B' is introduced which rotates about the same poles with B and at the same speed but in the opposite sense, the rotations of B and B' will cancel each other and any point of B' will move as if it were rigidly connected with the sphere A. But, as A is the outermost sphere for Saturn, A is the motion of the sphere of the fixed stars; hence B' will move in the same way as the sphere of the fixed stars; and consequently Jupiter's spheres can move inside B' as if the spheres of Saturn did not exist and as if B' itself were the sphere of the fixed stars.

Hence it is clear that, if n is the number of the deferent spheres of a planet, the addition of $n-1$ reacting spheres inside them neutralizes the operation of $n-1$ of the original n spheres and prevents the inner set of spheres from being disturbed by the outer set. The innermost of the $n-1$ reacting spheres moves, as shown above, in the same way as the sphere of the fixed stars. But the first sphere of the next nearer planet (as of all the planets) is also a sphere with the same motion as that of the sphere of the fixed stars, and consequently we have two spheres, one just inside the other, with one and the same motion, that is, doing the work of one sphere only. Aristotle could therefore have dispensed with the second of these, namely the first of the spheres belonging to the inner planet, without detriment to the working of his system; and, as the number of 'planets' inside the outermost, Saturn, is six, he could have saved six spheres out of his total number.

Aristotle omits, as unnecessary, any reacting spheres for the last and innermost planet, the moon¹⁰⁷. Yet, as Martin points out¹⁰⁸, Aristotle should have realized that, strictly speaking, the account which he gives in the *Meteorologica* of shooting stars, comets, and the Milky Way necessitates the introduction of four reacting spheres below the moon. For according to Aristotle, these phenomena are the effects of exhalations rising to the top of the sublunary sphere and there coming into contact with another warm and dry substance which, being the

¹⁰⁷ Aristotle appears to have considered each planet with its spheres a self-contained system in which the reacting spheres must show the same order as the deferent. The principle that even the planets near the centre imitate the circumference is clearly stated in the *De caelo* II 12.

¹⁰⁸ *Mémoires de l'Acad. des Inscriptions et Belles-Lettres*, XXX (1881), 263-264.

last layer of the sublunary sphere and in contact with the revolution of the outer heavenly sphere, is carried round with it; the rising exhalations are kindled by meeting and being caught in the other substance and are carried round with it. Hence there must be a sphere below the moon which has the same revolution as that of the sphere of the fixed stars, in order that comets, etc., may be produced and move as they are said to do. The four inner spheres producing the moon's own motion should therefore be neutralized as usual by the same number of reacting spheres."

Martin's observation is certainly right. In defense of Aristotle one may perhaps insist on the fact that A 8 was written from the point of view of mathematical theory in which the irregular phenomena of shooting stars and comets were neglected as irrelevant. Or else one must resort to the hypothesis that the theory in its actual form was not elaborated by Aristotle himself.

1074a4. The adverb ὑποκάτω is first found in Plato's dialogues.

a4-5. οὕτω γὰρ μόνως ἐνδέχεται τὴν τῶν πλανήτων φορὰν ἅπαντα ποιεῖσθαι. Schwegler translates: 'It is only on this supposition that the revolution of the planets produces the phenomena'. Bonitz points out that this translation is not correct and suggests to read the clause as follows: 'only in this way does it come about that all the spheres together (Ross: all the forces at work), which we postulated, bring about the observed movement of the planets'¹⁰⁹. This translation is grammatically correct, yet we would hardly expect this conclusion. Judging from the context Aristotle should have written: it is only in this way that the complicated phenomena of the course of the planets can be explained. It might be better to make τὴν φορὰν the subject of the accusative-with-infinitive construction which follows the impersonal verb ἐνδέχεται. The translation, then, is: "It is only in this way that the motion of the planets (the revolving body of the planets) executes all the figures (the path) observed". The not explicitly stated object noun of ἅπαντα would be a term like διάγραμμα¹¹⁰.

1074a10. The text may be illustrated by the following survey

	Eudoxus	Callippus	Aristotle (reactingspheres)
Saturn	4	4	3
Jupiter	4	4	3

¹⁰⁹ Heath, *op.cit.*, 217, translates ἅπαντα by 'a combined system'.

¹¹⁰ Cf. *De caelo* 280a3 (ποιεῖν διάγραμμα) and *Meteor.* 375b18.

Mars	4	5	4
Mercury	4	5	4
Venus ¹¹¹	4	5	4
Sun	3	5	4
Moon	3	5	0
	26	33	22

In Aristotle's theory there would be 33 + 22, that is, 55 spheres. This number is remarkable in as far as it also is the sum total of the ideal numbers.

a11. τε καὶ πέντε. τε καί is redundant here. For another example see *Rep.* 453d.

a12. As Heath writes, the remark seems to show that Aristotle was not entirely certain that the additional spheres, postulated by Callippus for the sun and moon, were really necessary.

In the *De caelo* II 12 Aristotle states that the planets which are farther removed from the principle of the universe than the first heaven, can only attain their perfection by a set of complicated movements. The sun and moon, however, have fewer movements, which means that they no longer attain the final end, but try to approach it in as far as their share in the divine permits them. According to this chapter there would be a considerably greater difference between the planets on the one hand, the sun and moon on the other hand than Callippus' theory admits¹¹². One may perhaps explain the divergence between the two texts by assuming that in the *De caelo* Aristotle was considering the function of the sun and moon in respect of the earth, while in A 8 he considers what they have in common with the planets.

A further difficulty in this passus is a miscalculation in a13-14: if the spheres, added by Callippus to those already admitted by Eudoxus for the sun and the moon, and the two corresponding reacting spheres of the sun are left out, the total number would be reduced by six, i.e., be 49. The text however gives 47 as the new number. According to Sosigenes this number is just a mistake made by a copyist¹¹³. – Before admitting this simple explanation we must first explore other pos-

¹¹¹ Heath places Venus after Mercury.

¹¹² H. J. Easterling, in *Phronesis* 1961, 138-153, argues that in this chapter of the *De caelo* Aristotle is still adopting the hypothesis of Eudoxus. However, Eudoxus does not seem to have admitted so much difference between the planets and the sun and moon, as II 12 claims there is.

¹¹³ Ps. Alexander 706,13-14; Simplicius, *In De caelo* 503,35.

sibilities. – Ps. Alexander, 706,8-10, suggests that Aristotle forgot that there are no reacting spheres in the system of the moon and would have deducted four spheres instead of two. Simplicius, *In De caelo* 503, 22-25, hesitatingly advances the possibility that Aristotle intends to say that one should subtract not only the spheres which Callippus added but also the four reacting spheres which he himself added to those of the sun.

Martin, followed by Dreyer, thinks that Aristotle perhaps also did away with the third sphere (and the corresponding reacting sphere) which Eudoxus had assigned to the sun.

Before making an attempt to explain the number 47, we must know why quite unexpectedly the text speaks of leaving out the additional spheres for the sun and the moon. A reason for this could be that the inequality of the motion of the sun in longitude is not so great as to require the assumption of a new sphere. In the case of the moon the inequality is only noticed when successive lunar eclipses are compared the one to the other.

Now, I would suggest that Aristotle felt that one might also deduct the four reacting spheres of the system of the sun, provided one assumes that there is a discontinuity between the earth and moon on the one hand and the remaining part of the cosmos on the other hand. In Presocratic thought the moon was believed to consist of one or more of the four elements or to form in its quality of counter-earth one system with the earth¹¹⁴. Aristotle in his reduction of the spheres to 47 would have such a view in mind here¹¹⁵. The expression *ἀς εἴπομεν κινήσεις* in a13 would then refer to all the deferent and reacting spheres added by Aristotle and Callippus to the systems of the sun and the moon.

A somewhat similar solution to the problem was suggested by Krische who thought that the sun is so far from the moon that it has

¹¹⁴ To certain Pythagoreans the moon marks the borderline of the heavenly region (*ὡς ἀποπερατοῦσαν τὰ οὐράνια*) (Simpl., *In De caelo* 512,19). The term 'counterearth' also indicates that it was conceived as forming with the earth a system of opposites. – Empedocles (A 30), Democritus (A 90), and Anaxagoras (A 42; 77) think the moon is made of elements like air, fire or earth. For a complete list of the texts see W. Gundel, *Mond* in *R.E.* XVI 76-105, esp. 78-79 and 90.

¹¹⁵ In the *Corpus* it is difficult to find indications of this theory. – An additional reason for the reduction may have been the need to secure the causal influence of the sun upon the earth. Too great a number of spheres in the intermediate space may have been thought to weaken this influence.

no influence upon it; hence reacting spheres are not necessary¹¹⁶.

a14. After having established the presumed number of spheres, Aristotle now considers their being and the principles responsible for their never-ending motion.

For Aristotle each of these spheres is a substance (*οὐσία*). Although this view is an innovation with regard to the theory of Eudoxus, it takes up certain suggestions of Presocratic philosophers about rings or bands of material, constituting the orbit and carrier of the stars, the sun and the moon¹¹⁷. Also Plato conceived of these rings as a sort of bodies¹¹⁸.

The last section of the chapter consists of three parts a14-31, a31-38, a38-b14, the first of which is subdivided into a14-17, a17-25, a25-31.

The text opens with the assertion that there are as many moving principles as there are spheres.

a14. *τῶν σφαιρῶν*. Simplicius and Themistius have *φορῶν* in their paraphrase of the text, yet a correction is not necessary. The term *σφαιρῶν* is loosely used and does not necessarily signify that the circle is a spherical *body*.

a16. The words *καὶ τὰς αἰσθητάς* create a problem, for since used together with *τὰς ἀκινήτους*, they can only apply to the moving principles of the planets. But these are invisible, if conceived as being analogous to the First Mover. For this reason it seems best either to exclude the words with Ross and Jaeger, or to read *καὶ ἀνασθητούς*¹¹⁹.

a16. *εὐλογον... ἀναγκαῖον*. The terms express what is likely and what is strictly necessary. Cf. *Phys.* 256b22-23.

According to Jaeger the term *εὐλογον* indicates that Aristotle is now entering a province which is beyond demonstration or strict science¹²⁰. With Reale I think that this is wrong: the term only applies to the precise number of spheres, but not to the inference that there are other unmoved movers¹²¹.

a17-25. In this passus Aristotle advances his argument in support of a plurality of movers: a substance which is itself immune from

¹¹⁶ *Forschungen auf dem Gebiete der alten Philosophie* I (1840), 298. – Krische also does away with the reacting spheres of Mercury (which he takes to be the planet closest to the sun). In the text, however, there is no question of Mercury.

¹¹⁷ See above p. 176 and Heath, *op.cit.*, 67.

¹¹⁸ See *Rep.* 616d-e.

¹¹⁹ The translation of Van Moerbeke is based upon such a reading.

¹²⁰ *Aristotle*, 350.

¹²¹ *Teofrasto e la sua aporetica metafisica*, Brescia 1964, 118.

change and has reached its aim, is bound to have an influence, as a final cause, upon other things in the cosmos, that is, it brings about local movement. We have analyzed the observed movements of the stars, some of which are composite. Now there must be exactly as many moving principles as there are components of the movements of the stars.

a17-18. Every *φορά* must contribute to (*συντείνουσιν*) to that of the star of its system. *Φορά* here means the revolving movement of each sphere.

This assertion supposes that the universe is a well-ordered whole, and that the deferent and reacting spheres of each planet form one system. – Apparently the 55 spheres take up all the available space so that there is no other sphere left which would revolve without connection with the other spheres.

a19. The particles *ἐτι δέ* introduce the second principle which supports the argument of the *passus*. – Grammatically the clause is a second conditional *protasis*¹²²; it even bears the weight of the argument.

In a20 we must read *τελός* in conformity with E and the explanation of ps. Alexander¹²³: *τελός* is required by the context and adopted by Bonitz, Ross and Jaeger.

Elsewhere too Aristotle points out that the good is the end, as, e.g., in *Met.* 983a32; *E.N.* 1097a18-19; *E.E.* 1218b6. A being which has attained the best, scil. the best life or the best way of being, has reached its end and fulfilment.

The contents of the clause show a close similarity with the doctrine expounded in *De caelo* I 9 and II 1. According to I 9, 279a19-22, there are beings beyond the heaven, which are outside place and time and do not change, i.e., are *ἀναλλοίωτα* and *ἀπαθῆ*¹²⁴. They are the *τελός* of the other things. This thought is further elaborated in II 1; the first heaven is the *τελός* of all process in the universe (284a5-11) and the principle of movement of the other things¹²⁵. It is this point which is stressed in A 8: a being which has reached this supreme state in which it is not subject to change and decay, but entirely self-sufficient,

¹²² Cf. J. D. Denniston, *Greek Prose Style*, Oxford 1952, p. 74.

¹²³ 708,23-25. On p. 707,34 the manuscripts of the commentary have *τέλους*, but Hayduck rightly corrects it to *τελός*.

¹²⁴ Cf. 284a14 where the terms are predicated of the first heaven.

¹²⁵ 284a10: τῶν δ' ἄλλων τῶν μὲν αἰτία τῆς ἀρχῆς, καὶ

becomes a *τελός* for other things. The reason is that all things aspire their good, that is their self-sufficiency¹²⁶.

καθ' αὐτήν in a19 is best connected with τοῦ ἀρίστου τετυχηκυῖαν. The meaning is: which by itself, i.e., essentially, has attained the highest good¹²⁷.

The perfect participle *τετυχηκυῖαν* does not mean that these principles acquired their good; it stresses the enduring condition of their happy life.

a22. Jaeger writes *εἰ* (instead of the *εἴτε* of the manuscripts), since the context requires a conjunction introducing a conditional clause.

a23. ἀλλὰ εἶναι γε ἄλλας φοράς κατὰ. The impossibility of which Aristotle here speaks is an impossibility *ex hypothesi*, as the next line makes plain¹²⁸.

a24. ἐκ τῶν φερομένων ὑπολαβεῖν. As the text stands now, the meaning of the clause is clarified by the following lines and we must translate: "this may be concluded from <the number of> the celestial bodies carried <in circular orbit>"¹²⁹. – This gives a good sense, yet the Greek is somewhat harsh. It is possible that the original had ἐκ τῶν φαινομένων ὑπολαβεῖν¹³⁰, 'to assume on the ground of the available evidence'. This reading, however, has against it that the subsequent statement is only indirectly based upon the observation of the number of stars and their movements, but directly upon an *a priori* argument.

a25-31. There cannot be more movements and movers than 55, for *φορά* is always for the sake of the body which is carried. Now all the observed movements have been accounted for. Hence there is no other *φορά* and no other sphere besides these 55.

τὸ φέρον, the carrying body, i.e., the sphere. The activity of the

¹²⁶ Cf. *Pol.* 1331b39-40; *E.N.* 1094a3; 1172b10-15. The theory set forth in the latter text is that of Eudoxus (see Gauthier and Jolif, *op.cit.*, II 819); the term *φέρεσθαι* in 1172b12 is the technical term to denote the movement of the stars. Eudoxus may have made the movement of the stars dependent on the good which they pursue. This good would then be inherent to the stars, just as Eudoxus also thought ideas to be present in things. Cf. K. von Fritz, 'Die Ideenlehre des Eudoxus von Knidos', *Philologus* 81 (1926), 1-26, p. 14.

¹²⁷ Those who read *τέλους* must take *καθ' αὐτήν* as an opposition to *οὐσία*.

¹²⁸ For an example see *De caelo* 281b3-4.

¹²⁹ In the *Corpus τὰ φερόμενα* frequently denotes the celestial bodies, e.g., in *Met.* 986a10; 990a11; *Meteor.* 339a12; 339b31.

¹³⁰ Cf. *Meteor.* 344a7-8; *De caelo* 270b4; 306a7; 309a26.

carrier is for the sake of the carried. Cf. *Met.* 996a26: every activity has a purpose. To carry is always to carry something¹³¹.

a28. In the protasis the future *ἔσται* is used under the influence of the future in the apodosis. This attraction of the tense is frequent when the protasis follows the apodosis, but very rare in cases where the protasis comes first.

a29. *εἰς ἀπειρον*, scil. *λέναι*. On Aristotle's rejection of infinite regress see *Phys.* VII 1. For Aristotle it is self-evident that there is no such regress¹³². From an analysis of the cases where he uses the principle, we can infer that it applies to a series of causes which in the very exercise of their causality depend upon each other.

a30. *τέλος ἔσται κτλ.* In line a20 the mover was said to be the *τέλος* of motion, whereas here the moved body is the *τέλος*. The discrepancy disappears when we apply the distinction, made in 1072b2, between the *finis cuius gratia* and *finis cui*. Movement is for the good of the moved body, but the good of the mover is the end in view of which the entire process takes place. In as far as the good of the body is the end, one may say that the form (*εἶδος*) is the end, or that every activity is an activity towards a definite *φύσις*¹³³.

κατὰ τὸν οὐρανόν. For a similar expression see *Met.* 990a11.

a31-38. This section purports to show that there is only one heaven. The somewhat obscure argument may be reconstructed as follows: if there would be more than one heaven, the formal *ἀρχή* of heaven would have to exist in matter and so become many. However, the first formal principle of the universe (that is, the First Mover) does not have any matter, because it is pure actuality. Hence it is only one. From this it follows that also the first heaven which is ceaselessly moving, is one.

In this argument serious difficulties turn up. In a32 there is question of the moving principle which is considered the formal principle of heaven. It does not have any matter. Does this mean that it is unrelated to heaven (which is material)? If so, why does Aristotle compare heaven to man (in a32)? Or does it mean that the heaven is also immaterial? In that case 'immaterial' does not mean 'without

¹³¹ Cf. *Phys.* 201a15: τοῦ δὲ φορητοῦ (scil. κίνησις) φορέα.

¹³² For a list of some texts see Bonitz, *Index* 74b41-54 (*εἰς ἀπειρον λέναι*) and 348a42-56 (*ἀνάγκη δὲ στήναι*). Plato intimates the principle in his *Lysis* 219c (*ἀφικέσθαι ἐπὶ τινι ἀρχῇ*).

¹³³ Cf. W. Theiler, *Zur Geschichte der teleologischen Naturauffassung*, 91.

extension in space', but 'without potentiality for alteration, generation and corruption'.

In these lines *οὐρανός* means the first heaven, that is, the sphere of the fixed stars, but also everything included within the extreme circumference¹³⁴. Heaven is here considered the vehicle of the activity of the First Mover: this Mover is one, and has a never changing activity with only one effect, viz. the movement of the first heaven.

De caelo I 8 and 9 deal with the question of the plurality of world, and advance a number of arguments against this assumption. Anaximander is sometimes credited with having been the first to uphold a theory of innumerable worlds¹³⁵. However, with the majority of modern commentators we assume that, at the most, Anaximander believed in a plurality, not of coexistent, but of successive worlds; he may not have spoken of such a plurality at all¹³⁶. – The atomists explicitly formulated the theory: postulating innumerable atoms and an infinite void, they said that several worlds should come into existence¹³⁷. Democritus even went into details: in some of these worlds sun and moon are lacking, whereas in other worlds there are several of them¹³⁸. Plato refers to the theory in his *Timaeus* 31a: "Have we, then, been right to call it one heaven, or would it have been true rather to speak of many, and indeed of an indefinite number? One we must call it, if we are to hold that it was made according to its pattern"¹³⁹. Plato's disciple Heraclides Ponticus asserted that each planet was a cosmos of its own, with an earth and with air¹⁴⁰.

a33. *ἀριθμῷ δὲ γε πολλῷ*. The expression 'numerically many' is based upon an analogy with number: the individuals in a species are related

¹³⁴ Cf. *De caelo* 278b8-21. – The etymology of the term is doubtful (in *Crat.* 396c Plato mistakenly derives it from *ὀρεῖν ἄνω*). In ancient Greek poetry it signifies the region which contains the stars and in which the phenomena of weather take place. It was personified and considered to be divine or to be the dwelling-place of the gods. Cf. J. Kerschensneider, *Kosmos*, 34-36.

¹³⁵ Cf. Simplicius, *In Phys.* 24,17-19.

¹³⁶ Cf. Cornford, in *Class. Quart.*, 1934, 1 ff.; Kirk and Raven, *op.cit.*, 121-122; Kahn, *op.cit.*, 50; Guthrie, *HGPh* I 106-155. – J. Kerschensneider, on the other hand, defends the validity of the testimony of Simplicius, and reaffirms that Anaximander assumes that there is a plurality of coexisting worlds.

¹³⁷ See the words of Metrodorus, *Doxogr. gr.* 292,9-14.

¹³⁸ Diels A 40 (Hippolytus, *Refutatio* I, 3.)

¹³⁹ Translation by Cornford.

¹⁴⁰ Fr. 13 Wehrli.

to each other, juxtaposed to each other in an order of succession, like numbers in a series¹⁴¹.

As in the case of man a common specific essence is realized in different individuals, a plurality of heavens would imply that one form is multiplied in the different heavens. This doctrine of multiplication of the substantial form is diametrically opposed to Plato's theory of participation according to which one and the same form is shared in by the various individuals¹⁴².

It is not so clear which is the precise meaning of the comparison between man and the universe¹⁴³. We may perhaps assume that the First Mover stands to the first heaven as the soul to the body which it informs. There is a difference in so far as the soul moves itself, whereas the First Mover is unmoved. – Aristotle probably conceived of this Mover as being without magnitude or parts and as acting upon the first heaven from outside. Cf. *Phys.* 267b6ff.

ἡ περὶ ἕκαστον ἀρχή. The preposition περὶ here has the pregnant sense of 'working on', and 'in'¹⁴⁴. The Greek of the *Corpus* shows a tendency to use periphrastic expressions even where a plain subjective genitive is meant¹⁴⁵.

a33. ἀλλ' ὅσα ἀριθμῶ πολλά, ὕλην ἔχει. The plurality of individuals is to be explained by the fact that there is a plurality of substrata which receive the specific form. This view is also expressed in other texts, as, for instance, *Met.* 1016a32-33; 1035b30-31. However, elsewhere Aristotle appears to consider form the cause of individuation, as in *Met.* 999b21: ἐν γὰρ πάντα ὧν ἡ οὐσία μία, and 1038b14: ὧν γὰρ μία ἡ οὐσία καὶ τὸ τί ἦν εἶναι καὶ αὐτὰ ἐν.

It is not impossible to reconcile these texts by assuming that in the first series of texts individuation is considered from the point of view of multiplication of the specific essence, while in the latter texts the unity of the individual substance is stressed¹⁴⁶. However, there remain some texts which are difficult to explain, as for instance *Met.* A 5,

¹⁴¹ Cf. *De anima* 407a8: τὰ νοήματα νῶν ἐφεξῆς ἐν ὧς ὁ ἀριθμός. See also *Phys.* 220b3; *Met.* 1080a20. From *E.E.* 1242a4 one may conclude that the expression κατ' ἀριθμὸν connotes a relation between things at the same level.

¹⁴² Cf. *Met.* 1086b14ff.; 1060b29; 1087b12; 999b25.

¹⁴³ Aristotle sometimes compares the universe to a living being. *Vice versa* in *Phys.* 252b26 he calls man a μικρὸς κόσμος, an idea which goes back to Democritus, B 34.

¹⁴⁴ Cf. Bonitz, *Index*, 579a29; b10.

¹⁴⁵ P. T. Stevens, 'Aristotle and the Koine', in *Class. Quart.* 30 (1936), 204-217.

¹⁴⁶ The Thomistic explanation of the principle of individuation is close to this.

1071a27-29; *De anima* 412a6-9¹⁴⁷. In view of this it is not unlikely that a certain evolution of Aristotle's thought on this subject took place: as long as he had not worked out his theory of primary matter and substantial form, he probably considered matter as containing all the determinations of the individual outside the form, i.e., the *logos* (cf. 1016b32; 1034a5-6). Later Aristotle began to lay greater stress on the subsistence of the individual as one unit, and less on the common specific form¹⁴⁸.

1074a34 does not say more than that because there is matter the form can be given to many individuals: the same *logos* belongs to many.

a35. ὅλον ἀνθρώπου, Σωκράτης δὲ εἷς. This clause seems perfectly irrelevant to the argument.

Ps. Alexander, 709,30-33, obviously thinking of those texts in which individuation is made dependent on form, takes these lines to mean that the *ratio* of man *qua* man is different in every individual.

According to Schwegler, 282, the sentence would say that Socrates is one among many, because he has matter. Against this one can say that the obvious sense of εἷς is not that of 'one among many'.

Bonitz, 513, avows that he does not understand these words.

F. G. Starke, who wrote shortly after Bonitz, tried to interpret the terms by connecting them with what follows: Socrates consists of matter and form, but is nevertheless a unity. Likewise the entire world which is composed of all matter, is one because of the unity of its form¹⁴⁹. – Against this is that on this point there is no parity between heaven and man.

Ross, *Metaph.* II 395, thinks that Aristotle is saying that although men have a common form, an individual is nevertheless a special unit by himself. – Here, as in the case of Schwegler we say that the implied sense of 'one in a species' goes beyond the text.

Christ excises the sentence and Jaeger suggests that some words dis-

¹⁴⁷ On this problem see Ross, *Aristotle*, 169; *Metaphysics*, Introd. CXIV; L. Robin, *La pensée hellénique*, 486ff. Robin tried to solve the problem of the divergent statements on individuation by assuming that for animals matter is the principle of individuation, for man form (the characteristics of individual animals would not be worth-while knowing). Robin bases his analysis on *P.A.* 644a23-b7. However, it is difficult to deduce from this text the doctrine which Robin sees in it.

¹⁴⁸ Cf. A. M. de Vos, 'Het εἶδος als eerste substantie in de *Metaphysica* van Aristoteles', in *Tijdschrift voor Philosophie* 1942, 57-102, p. 95.

¹⁴⁹ 'Aristotelis de unitate Dei sententia', in *Jahresbericht des Friedrich-Wilhelms Gymnasiums*, Neu Ruppin 1864, p. 8.

appeared, as for instance Σωκράτης δὲ <καὶ Καλλίας οὐχ> εἷς, scil. ἀριθμῶ.

I would prefer to consider the expression a marginal remark intended to bring out the difference between an individual which although composed of form and matter, is a strict unity, and the first heaven which does not form such a unity with its mover. On this assumption the particle δέ is strongly adversative and restricts the force of the comparison, viz. "(One should bear in mind that) Socrates is one – something which cannot be said of the first heaven and its mover."

a35. τὸ δὲ τί ἦν εἶναι... τὸ πρῶτον. The expression τὸ τί ἦν εἶναι was coined by Aristotle, although it had been prepared by Plato's terminology¹⁵⁰. Grammatically τί is the subject, ἦν the finite verb, εἶναι a predicative infinitive. The imperfect tense does not signify a past activity or state, but timeless being¹⁵¹. The terms were eminently useful to bring out the distinction between a concrete thing and its form, expressing as they do the specific form. This form is conceived in abstraction from concrete matter, but it may include a reference to the necessity to be in matter and to the properties which flow forth from this¹⁵².

It is surprising that Aristotle speaks here of the τὸ τί ἦν εἶναι of the First Mover. In *Phys.* 198b2-9 he makes a distinction between the completely unchangeable and primary reality, and the form¹⁵³. – Bonitz rightly observed that the τὸ τί ἦν εἶναι is never used to signify οὐσία as the first category, i.e., it denotes the formal element rather than the subsistence of things¹⁵⁴. In the case of forms which are not in

¹⁵⁰ Cf. *Eudemus* fr. 37a Wehrli (p. 26,1-5) where Plato is said to have identified the expressions τὸ φρόνιμός ἐστι and τὸ φρονεῖν, for the reason that there is no participation of being in the accidental order (cf. Simplicius, *In Phys.* 99,25-31). However, in the category of οὐσία a subject partakes in the form, so that 'man' and 'to be man' are not the same. – It is quite likely that this Platonic terminology influenced Aristotle and led him to coin an expression as τὸ ἀνθρώπου εἶναι. Yet there is an important difference between Aristotle's expression and that of Plato. In τὸ ἀνθρώπου εἶναι, ἀνθρώπου is a possessive dative, and so rather than stating that man partakes in a form, Aristotle deals with the 'being' which is most formal to man. See F. Bassenge, 'Das τὸ εἶναι εἶναι, τὸ ἀγαθὸν εἶναι etc. und das τὸ τί ἦν εἶναι bei Aristoteles', in *Philologus* 1960, 14-17; 201-222.

¹⁵¹ For a list of the literature on the subject see J. Owens, *The doctrine of being*, pp. 183-4.

¹⁵² Cf. *Met.* 1023b2: ἀλλὰ καὶ τὸ εἶδος ἐκ τῆς τοῦ εἶδους ὕλης. *Met.* 1032b14 makes plain that the τὸ τί ἦν εἶναι does not include concrete matter. Cf. also 1007a21 ff.

¹⁵³ The terms τὸ τί ἦν εἶναι occur in b8.

¹⁵⁴ *Index* 764b34.

matter, the form itself was felt to be subsistent¹⁵⁵, and this does perhaps explain why Aristotle applies the expression to God.

The First Essence is said not to have matter, whereas the other τί ἦν εἶναι do. *Abstract* matter is meant here. The statement amounts to saying that in the definition of the First Essence there is no reference to matter¹⁵⁶, e.g., to quantity or movement.

Does the text also imply that any plurality of elements in the definition is excluded? Sometimes the genus is called the ὅλη of the species¹⁵⁷. If this is applied to this passus, it would follow that the First Being is not only numerically, but also specifically and generically one. This is precisely what lines a36-37 say.

a37. καὶ τὸ κινουμένον ἀρα δεῖ καὶ συνεχῶς. The meaning of this incomplete sentence is that therefore that which is always and continuously moving (i.e., in movement) is also specifically and numerically one¹⁵⁸. – It is by no means clear how this follows from the fact that the First Mover is one¹⁵⁹. Alexander is of the opinion that the First Mover, if it moves by being desired, should be able to move several worlds simultaneously¹⁶⁰. Alexander's observation is sound, and therefore I would suggest that in this passus the First Mover is assumed to move the heaven (also) as an efficient cause. Its activity and force are coextensive with its form and being. This force would be engaged in moving the first heaven¹⁶¹.

It could also be that the argument is even simpler: since there is one Mover, there is one world. In later philosophy, especially in Neoplatonic thought, the principle that from the One only what is one comes forth, often recurs. Plato's *Timaeus* 31b laid the basis for this way of thinking.

It would seem that the passus does not agree very well with the doctrine of chapter seven (κινεῖ δὲ ὧδε τὸ ὁρεκτόν), and even less with the theory of a plurality of movers of the preceding section of chapter

¹⁵⁵ Cf. *Met.* 1043b1-3 and *De anima* 412a27-b11.

¹⁵⁶ See *Met.* 1023b2.

¹⁵⁷ *Met.* 1024b8; 1038a6.

¹⁵⁸ *De caelo* 284a31 likewise says of the first heaven καὶ κινεῖ συνεχῶς.

¹⁵⁹ Cf. Bonitz, 512: ...ut non possim perspicere quomodo iam... ex unitate principii moventis concludat unitatem caeli.

¹⁶⁰ Apud Simpl., *In De caelo* 270,5-14. – Some commentators think that *De caelo* 277b9-12 refers to this part of A 8. This is, however, by no means sure. See *Aristotle's Cosmology*, 134.

¹⁶¹ On the intimate connection between μορφή and δύναμις see Bonitz, *Index* 474a57.

eight¹⁶². – Hence the passus is probably out of place as is agreed upon by Von Arnim¹⁶³, Jaeger¹⁶⁴, Guthrie¹⁶⁵, and Ross¹⁶⁶. – This conclusion is confirmed by the fact that if the passus is dropped, the οὔτοι of 1074b3 can be quite naturally connected with 1074a14-31.

Recently Ph. Merlan and J. Owens¹⁶⁷ denied that there is any contradiction between the passus and the rest of the chapter. They, rightly, point out that the unicity of the universe is a necessary presupposition in the argument of the existence of 55 movers. Merlan argues that the movers are related to the ideal numbers, i.e., they are not similar to different species belonging to the same genus. Owens thinks that the disputed passus only concerns the first of the unmoved movers.

Merlan and Owens' explanation is highly improbable: if there would be a series of unrelated movers, a series of unrelated worlds should result. – Furthermore, the text attempts to show that the First Mover is numerically one by denying that it has any matter in its definition. Metaphysically speaking this argument undermines the main thesis of A 8 as Plotinus and others have noticed.

Prof. Kraemer, siding with Merlan and Owens, believes that the text does not exclude a certain differentiation or plurality within the supreme principle. The movers would not form a genus, but be beyond the differentiation consequent upon matter. Kraemer sees a relation between this plurality within transcendental being and the δ ἔστιν ζῶον of *Tim.* 31a, for the latter also contains a certain plurality¹⁶⁸. This ingenious comparison with Plato's doctrine would be convincing if it could be shown that the 55 movers do form such a whole. But the

¹⁶² W. K. C. Guthrie writes in his 'The Development of Aristotle's Theology, II' in *Class. Quart.* 28 (1934), p. 95: "The trouble is... that this argument rules out not only the possibility of another universe, but also the existence of the other unmoved movers, which Aristotle has just been postulating".

¹⁶³ *Gotteslehre*, 72. – However, in his *Eudemische Ethik und Metaph.*, 35, he points out that the passus only confirms the unicity of the world and its transcendent principle.

¹⁶⁴ *Aristotle*, 351.

¹⁶⁵ *Op.cit.*: "it is simply incredible that Aristotle intended this passus for insertion here".

¹⁶⁶ *Metaph.* II 384: "...seems to be a fragment belonging to the earlier and more monistic period of Aristotle's thought".

¹⁶⁷ *Traditio* IV (1946), p. 12; *The Doctrine of Being*, 448-450. Prof. Kraemer kindly drew my attention to H. A. Wolfson in *Harv. St. in Cl. Philol.* LXIII (1958); 239f. and M. Untersteiner in *Rivista di Fil.* 39 (1961), 129, who propose a similar interpretation.

¹⁶⁸ *Geistmetaphysik*, 167; *Kantstudien* 58 (1967), 322, n. 24 and 344.

preceeding part of the chapter gives no support to such an interpretation. – One may well agree with Kraemer on the fact that the 55 movers must be beyond material differentiation, but it cannot be denied that the chapter speaks of a numerical plurality of movers, while 1074a35-37 attributes *numerical* unity to the First Mover.

W. Jaeger, drawing attention to the fact that the style of the passus is different from that of the rest of A 8, thinks that Aristotle inserted it on purpose here, so as to criticize the theory of a plurality of Movers¹⁶⁹. To Von Arnim the passus is what is left of the original version of A inserted in the wrong place¹⁷⁰. M. de Corte thinks the passus should be added to chapter seven¹⁷¹. According to Düring Aristotle would have added these lines later¹⁷².

In view of these difficulties it would seem best to consider the passus a later insertion into which some elements of Aristotle's writings were incorporated.

1074a38-b4. This last part of the chapter gives further support to the theory of a plurality of unmoved movers by pointing out that the ancients always believed the celestial bodies or regions to be gods.

Although the contents of the passus agree with the doctrine set forth in 1074a14-31, we must not forget (a) that it does not actually mention the movers; rather it seems to be a statement of the divinity of the celestial bodies, their souls or principles in general; (b) that its style is quite different from that of the first part of the chapter. Its language is beautiful and breathes a certain solemnity. Hiatus, frequent in the other passus, has been carefully avoided¹⁷³. – The contents of this part of the chapter are Aristotelian and similar to what is written in *De caelo* II 1 and I 3, 270b5-9.

a38. παραδέδοται. Cf. *Meteor.* 345b30; *Anal. Post.* 98a13; *Phys.* 218a32; *De anima* 412a3¹⁷⁴. – In the first Book of the *Metaphysics* as well as in the *Physics*, the *De caelo* and *De anima* Aristotle frequently gives a survey of the theories of his predecessors concerning a partic-

¹⁶⁹ *Aristotle*, 353.

¹⁷⁰ *Op.cit.*, 72-73.

¹⁷¹ 'Le pluralisme dans la théologie aristotélicienne', in *Revue belge de philologie et d'histoire*, IX (1930), 859-877, p. 876.

¹⁷² *Aristoteles*, 215.

¹⁷³ P. Aubenque, *Le problème de l'être chez Aristote*, 72, n. 2, discovers a Platonic touch in this passus, – but no Platonic doctrine or terminology is set forth or used.

¹⁷⁴ *De caelo* 270b17 has διαδεδοται.

ular question. It was his conviction that wisdom grows in an almost organic way and that it is difficult to reach a decision on whether something is true or not unless one has first studied the opinions of others¹⁷⁵.

When Aristotle is advancing a new doctrine as, for instance, in his discussion of the nature and existence of a fifth element, he mentions the views of his predecessors after having first completed his own argument¹⁷⁶. He does the same in this passus.

b1. *παρὰ τῶν ἀρχαίων καὶ παμπάλαιων*. The words form a hendiadys. *ἐν μύθου σχήματι*. The expression is somewhat depreciative. With *μύθος* Aristotle here means the stories about the gods of popular religion¹⁷⁷. – There is hardly any relation between the so-called Platonic myths and what Aristotle has in mind here. Platonic myths express in terms accessible to the general public a deep truth concerning the world or man's destiny. This general truth can hardly be verified by logical analysis and demonstration. The Platonic myths charm the soul and bring it into harmony with the cosmos¹⁷⁸. That Aristotle did not reject this type of myths may perhaps be concluded from Demetrius' *De elocutione* 144 where Aristotle is reported to have written towards the end of his life: "The lonelier and the more isolated I am, the more I have come to like myths".

In the pre-classical ages the stars and planets were not the object of any religious cult for the probable reason that the Greeks did not think they interfered with human life¹⁷⁹. However, at a relatively early date the celestial bodies began to be considered the dwelling place of the gods¹⁸⁰. Yet Zeus, Aphrodite and Hermes were not primarily star-gods, as the text here intimates. In the course of time the Greeks became increasingly interested in celestial phenomena¹⁸¹, and after the

Persian wars the cult of the sun and the moon became quite general¹⁸². Philosophers and playwrights began to criticize popular religion and so-called cosmic religion arose as a sort of substitute. Plato is the first philosopher to set forth a religiously tinged cosmology. In the *De caelo* Aristotle follows in his steps.

b2. *ὅτι θεοὶ τέ εἰσιν οὗτοι*. At first sight it is not clear to which things the demonstrative *οὗτοι* refers. Jaeger thinks that the heavenly bodies are meant¹⁸³. Schwegler, 282, and Ross, II 395, also assume that the pronoun is more likely to designate the stars than the movers. Guthrie, on the other hand, thinks that the 55 movers are the antecedent¹⁸⁴. – I would suggest that the pronoun is on purpose left vague. The passus is rhetorical in style and is likely to evoke in its first line conceptions common to everybody. It is only in b9 that Aristotle's own view (*πρώται οὐσίαι*), is brought in. For this reason we should translate *οὗτοι* by, 'these beings (up there)'.

b3. *καὶ περιέχει τὸ θεῖον τὴν ὅλην φύσιν*. The verb *περιέχειν* is repeatedly used in Presocratic philosophy to express the basic conviction on which most Greek cosmologies rest, viz. that the circumference of the universe is better than the centre, and is the origin, the supporting and governing principle. Anaximander's Indefinite contains everything, and Democritus states that the surrounding 'all' contains the animal bodies and imparts movement to them¹⁸⁵. Plato writes that the world 'envelops' all visible things, and for Aristotle the circumference of the world is its *τέλος* and contains all bodies, like form contains matter¹⁸⁶.

b4. Apart from one central statement or image which reveals an important truth the remainder of a myth has no scientific value. Nevertheless, myths as such are of some practical use because they contribute to promoting the unity of the state. – In his *Politics* V 11 Aristotle recommended that a tyrant show a particular interest in the cult of the gods so that his subjects will come to think that he is god-fearing. Aristotle is dealing here with the civic aspect of Greek religion¹⁸⁷. He felt that one cannot and should not suddenly do away with prevalent religious customs and conceptions, because these are

¹⁷⁵ *Ibid.*, 279b5-12.

¹⁷⁶ Cf. *De caelo* 270b16-20; 279a22-23; 284b5. On the problems concerning Aristotle's relation to his predecessors see *Aristotle's Cosmology*, 46-51.

¹⁷⁷ Cf. *De caelo* 284a19. H. J. Rose defines a myth (in this sense) as the result of the working of naive imagination upon the facts of experience. See his *Handbook of Greek Mythology*¹, London 1958.

¹⁷⁸ P. M. Schuhl, *La Fabulation platonicienne*, Paris 1947, 21-22. – Plato extensively used myths, yet he felt that there are things too perfect as to be expressed by the images of myths (*Polit.* 285e - 286a).

¹⁷⁹ F. Cumont, *Astrology and Religion among Greeks and Romans*, (transl.) New York 1960, p. 23.

¹⁸⁰ Cf. Hesiod, *Theog.* 126-128.

¹⁸¹ M. P. Nilsson, *Geschichte der griechischen Religion* I 839.

¹⁸² Cf. Sophocles, fr. 672 Nauck; Euripides, *Alcestis* 722; Jessen, in P.W., R.E. VIII, 58ff.

¹⁸³ *Aristotle*, 353.

¹⁸⁴ *Class. Quart.* 38 (1934), 95.

¹⁸⁵ *Phys.* 203b11; *De anima* 404a10.

¹⁸⁶ *Tim.* 92c; *De caelo* 312a12; *Phys.* 207b1.

¹⁸⁷ E. Barker, *The Politics of Aristotle*, Oxford 1952, p. 248.

interwoven with the very structure of the state. Where he speaks as a philosopher he is sharply critical of the subtleties of mythology, which do not deserve serious study¹⁸⁸.

πρὸς τὴν πειθῶ τῶν πολλῶν. What Aristotle here means, probably is the process of bringing home to people certain religious or philosophical views. — πειθῶ is an argument or address which appeals to the sentiments more than to reason.

καὶ πρὸς τὴν εἰς τοὺς νόμους καὶ τὸ συμφέρον χρῆσιν¹⁸⁹. In the life of the ancient city-states religious myths played an important part. For instance, territorial claims were often based upon myths of past heroes¹⁹⁰. To secure the unity of the state a cult was needed. In order to make Salamis their permanent possession, the Athenians built in Athens a sanctuary for the Salaminian hero Eurysakes¹⁹¹. Holidays and religious festivals also served the purpose of furthering friendship and concord among the citizens¹⁹². Many cases are known in which the city governments regulated the cults of certain gods and heroes. The tyrants sometimes used religion to satisfy the desire of the people for pageant and gorgeous festivities, as Peisistratus did in founding the great festivities in honour of Dionysius¹⁹³.

b5. One of the first Greek philosophers to criticize the conception of the gods in Greek myths, which were to a large extent based upon Homer and Hesiod¹⁹⁴, was Xenophanes. In fr. 14 he writes: "Men suppose that the gods are born and that they have clothes and speech and bodies like their own". Famous also is his criticism voiced in fr. 15: "If cattle and horses or lions had hands, or were able to draw with their hands and do the works that man can do, horses would draw the forms of the gods like horses and lions like lions and they would make their bodies as they each had themselves". In fr. 16 he writes: "The Ethio-

¹⁸⁸ Cf. *Met.* 1000a18: οὐκ ἄξιον μετὰ σπουδῆς σκοπεῖν.

See also *De caelo* 284a18ff. and W. J. Verdenius, 'Traditional and Personal Elements in Aristotle's Religion', in *Phronesis*, 1960, 56-70.

¹⁸⁹ For a close parallel see *De philosophia* fr. 8 Ross (Philop. in Nicom., *Isagoge* I 1).

¹⁹⁰ M. P. Nilsson, 'Cults, Myths, Oracles and Politics in Ancient Greece', in *Acta Inst. Atheniensis Sueciae* I, 1951, esp. 49ff.

¹⁹¹ Id., *Geschichte der griechischen Religion*³, I 712. On this Plato's position was close to that of Aristotle: see V. Goldschmidt, *La religion de Platon*, Paris 1949, 132-138; Glenn R. Morrow, *Plato's Cretan City*, Princeton 1960, 468ff.

¹⁹² Ps. Alexander, 710.5-12.

¹⁹³ L. Deubner, *Attische Feste*, Berlin 1932, 139.

¹⁹⁴ Cf. Herodotus, II 53.

prians say that their gods are snub-nosed and black, the Thracians that theirs have light blue eyes and red hair"¹⁹⁵.

Plato was sharply critical of many stories about the gods, in particular of those which ascribed immoral behaviour to them. See *Phaedrus* 243a¹⁹⁶.

b6. We find many examples of theriomorphic representations of the gods (as a snake, horse-head, she-bear, bull), however zoolatry itself hardly seems to have occurred in Greece¹⁹⁷.

b7. καὶ τούτοις ἕτερα ἀκόλουθα καὶ παραπλήσια τοῖς εἰρημένοις. By these words Aristotle seems to signify cosmological conceptions somewhat more advanced than those of Homer, Hesiod and Orpheus¹⁹⁸. Aristotle may have had in mind the so-called 'combining' theologians as Pherecydes, who not only use myths but also rational arguments¹⁹⁹. The upshot of Pherecydes' thought is that some deities existed from all eternity. This could mean that he assumed the gods to live in the heavenly spheres. For Pherecydes the first 'generator' (cause) is the most excellent being²⁰⁰.

b9. τὰς πρώτας οὐσίας. The expression means the first things, i.e., principles, and is reminiscent of the numerous texts in the *Corpus* where Aristotle speaks of eternal things and unmoved principles.

b9. θεῖως εἰρησθαι. A similar expression is used in *De caelo* 279a23: καὶ γὰρ τοῦτο τοῦνομα θεῖως ἐφθεγγεται παρὰ τῶν ἀρχαίων. As in Plato's *Republic* 368a the term θεῖον, θεῖως here signifies 'inspired by the gods'. Aristotle occasionally speaks of a knowledge about the gods and the cosmos which is given to man from above. Cf. *De phil.* fr. 12a Ross and *De caelo* 284b3²⁰¹. In these and similar texts the soul is conceived as capable of and desiring a type of knowledge other than rational, i.e., discursive knowledge, viz. a direct contact with ultimate reality. Yet in the works of Aristotle texts on this inspired knowledge are scarce; in Plato's dialogues it has a more important role than in the *Corpus*²⁰².

b10-13. The clause is an accusative with infinitive construction

¹⁹⁵ Translation by Kirk and Raven.

¹⁹⁶ P. Vicaire, *Platon, critique littéraire*, Paris 1960, 198-199.

¹⁹⁷ Nilsson, *op. cit.*, I 212-216.

¹⁹⁸ Cf. *Met.* 983b27ff. which probably refers to *Cratylus* 402b where Plato places Homer, Hesiod and Orpheus on one line.

¹⁹⁹ Cf. *Met.* 1091b8-10.

²⁰⁰ Cf. Kirk and Raven, *PrPh*, 71.

²⁰¹ Simplicius, *In De caelo* 382,28-32, perhaps influenced by Stoic thought, calls this prophetic insight a κοινὴ ἐννοια which people have about the bliss of the gods.

²⁰² Cf. *Rep.* 572a-b; *Phaedr.* 245a.

depending on νομίσειεν. Κατὰ τὸ εἶκός goes with the subsequent absolute genitive.

The passus expresses the conviction that in all likelihood each craft and each science have repeatedly been rediscovered, when circumstances were favorable, but were later lost or forgotten.

This somewhat unexpected remark is probably related to Empedocles' theory of cosmic cycles, according to which Love and Strife rule the world alternatively, so that there is an endless succession of κόσμοι²⁰³.

Another important document which describes what amounts to a reversal and return in cosmic process is Plato's *Statesman*²⁰⁴. — *Timaeus* 22c, *Critias* 109d-110a, *Laws* 677a speak of cosmic catastrophes taking place at regular intervals and exterminating a great part of mankind.

Aristotle's theory of cosmic cycles is less far-reaching. The cyclical return of which this text of A 8 speaks is limited to wisdom. Yet we may in all likelihood assume that Aristotle also believed in cyclical changes taking place on the surface of the earth. In *Meteor.* 352b17-20 he writes: "Since there is necessarily some change in the whole world but not in the way of coming into existence or perishing (for the universe is permanent), it must be as we say that the same places are not for ever moist through the presence of sea and rivers, nor for ever dry." In this connection he mentions the land of Egypt which is the result of alluvion²⁰⁵. While he refuses to admit a cosmic upheaval, Aristotle holds that these limited changes follow a certain pattern, and occur at fixed intervals in some great period of time²⁰⁶. It is possible that not only Empedocles' theory, but also certain Zoroastrian teachings, which Eudoxus brought to the Academy, influenced Aristotle²⁰⁷. Aristotle applied the theory of cyclical return mainly to man's conquest of knowledge²⁰⁸. The fact that certain discoveries in the field of science and art had also been made outside Greece, and that certain crafts or arts, once invented, had been forgotten again, may have led Aristotle

²⁰³ Fragm. B 17,1-13; *Phys.* 187a23; Simplicius, *In De caelo* 293,18-20.

²⁰⁴ *Polit.* 268dff. There are important differences between Plato's view and Empedocles' doctrine: for Plato God rules the world from the outside while for Empedocles Love and Strife are intrinsic factors. See J. Skemp, *Plato's Statesman*, New Haven 1952, pp. 90-91.

²⁰⁵ Herodotus relates a story he picked up from Egyptian priests about changes in the course of the sun. However these changes would not have affected the physiognomy of the country.

²⁰⁶ *Meteor.* 352a30.

²⁰⁷ Cf. Eudemus fr. 88 Wehrli (Simplicius, *In Phys.* 732,23ff.).

²⁰⁸ *De caelo* 270b16-20; *Polit.* 1329b25; *Meteor.* 339b27.

to formulate this theory. However, unlike Eudemus, he does not think that everything returns exactly the way it was. Fr. 8 of the *De philosophia* speaks of certain ἐγκαταλείμματα after catastrophes. These words might imply that the starting-point of each revival is more advanced than that of a previous cycle²⁰⁹.

b11. καὶ τέχνης καὶ φιλοσοφίας. The term τέχνη signifies the knowledge of how to make things²¹⁰, so that it is clearly distinct from ἐπιστήμη. Although Aristotle sometimes uses both terms indiscriminately as, for instance, in *Anal. Pr.* 46a22 and *Met.* 981b24²¹¹, there is every reason to assume that here each term has its own peculiar sense²¹², τέχνη that of art or operative science, φιλοσοφία that of wisdom²¹³.

b13. In Aristotelian terminology φανερά δόξα signifies a doctrine which is evident as opposed to an ἀφανής δόξα (*Top.* 173a5). In view of this it is better to connect ἐπὶ τοσοῦτον with lines b8 and 9 than with περισσεῶσθαι of b13.

²⁰⁹ M. Untersteiner, *Aristotele. Della filosofia*, Roma 1963, 120-121 (with literature quoted).

²¹⁰ *E.N.* 1140a7: ἕξις τις μετὰ λόγου ποιητική, which means that art is a conscious knowledge based on analysis and argument. Cf. *Met.* 1075a1.

²¹¹ The terms frequently occur together. See Bonitz, *Index* 759a30-33.

²¹² Cf. *Anal. Post.* 100a8: εἰ μὲν περὶ γένεσιν τέχνη, εἰ δὲ περὶ τὸ ἐπιστήμη.

²¹³ Cf. *Met.* 983b21.

CHAPTER NINE

If reason is the most divine thing in the world, its thinking will not depend on something else; it cannot be in potentiality. Reason must think itself; its thinking is a thinking of thinking. This is possible because its object is immaterial; furthermore divine thinking is indivisible throughout eternity.

This summary of the contents of the chapter, which hardly does justice to its intricate dialectical structure, shows that Aristotle now discusses in detail the nature of the activity of the unmoved Mover which he introduced in chapter seven. Hence it is not surprising that certain commentators considered chapter nine the sequel of chapter seven: "Chapter eight interrupts this continuous train of thought and breaks it into two parts. Remove it and chapters seven and nine fit smoothly together"¹. Even if this position is somewhat exaggerated², it cannot be denied that the contents of 7 and 9 complete each other. 1074b15-17 apparently serve the purpose of taking up again the discussion of divine *noûs*. The basic assumption of the chapter is that the supreme principle is mind or thought. Two questions are examined: does it think continuously, and does it think something else or itself?

1074b15 τὰ δὲ περὶ τὸν νοῦν. The expression could mean 'the nature of the *Noûs*', or 'the study of the *Noûs*'.

δοκεῖ μὲν γὰρ εἶναι τῶν φαινόμενων δευότατον. In Aristotelian terminology τὰ φαινόμενα are the visible things and observed facts³. Since the first principle is mind, which has itself as its object, it is strange that

these lines seem to consider it as one of the visible things⁴. Bonitz, 515, suspects a corruption of the text. In his paraphrase of the text ps. Alexander, 710,37-38, reformulates the wording so as to avoid the difficulty. Ross tries to solve the problem by suggesting that τῶν φαινόμενων here means "of all the things discovered by reason" (i.e., not by sense). Although the expression does not exclusively mean 'the visible things' or 'the observed facts', but also 'the common views' of people⁵, it is difficult to give it the meaning 'discovered by reason'. It would be better to translate: of all things which are evident to us (or: of which we are aware). Yet it is also possible that an editor who brought together the various parts of A wrote the first line of chapter nine himself so as to connect it with the preceding chapters. In that case τῶν φαινόμενων would just be a careless expression. – The twice repeated ἔχει τινὰς ἀπορίας, ἔχει τινὰς δυσκολίας is another indication that we have to do with an insertion. To consider *noûs* as present among the celestial bodies is characteristic of the immanentist thinking which we also met in 1074a31-38.

b17 εἴτε γὰρ μὴδὲν νοεῖ... εἴτε νοεῖ... The argument of chapter nine does not deal with the First Being as an unmoved Mover; it starts from the assumption that there is a supreme *noûs* in the universe. Now this *noûs* must actually be thinking. If not, it would be no better than one who is sleeping. In Greek protreptical literature the theme of being asleep frequently occurs, and sleep is considered undesirable⁶. In *Laws* 808b5 Plato writes that a man who is asleep is no better than one who does not exist at all⁷. Aristotle likewise has some rather negative statements on sleeping. In *Protr.* fr. 9 (= Düring B 101) he writes that sleep, however pleasant it is, is not a thing to choose because it removes us from truth⁸. According to fr. 14 (= Düring B 80) only he who is waking, is truly alive. Sleep is related to the lower part of man, i.e., to his vegetative functions⁹. These and similar statements in the *Corpus* could be a reflection of Aristotle's personal devotion to in-

¹ W. Jaeger, *Aristotle*, 346.

² See I. Düring, *Aristoteles*, 191, who thinks that chapter nine deals with a new theme.

³ Cf. *Met.* 1009b1; *De caelo* 270b4. – On certain nuances in the sense of the term see G. E. L. Owen, ΤΙΘΕΝΑΙ ΤΑ ΦΑΙΝΟΜΕΝΑ, in *Aristote et les problèmes de méthode*, 83-103, pp. 85-86.

⁴ The heavenly bodies are often called 'visible'; cf. *Phys.* 196a33; *E.N.* 1141b4 and *Epinomis* 984d.

⁵ See Owen, *op.cit.*, p. 86.

⁶ In Greek mythology, on the other hand, the gods were depicted as needing food and sleep, and Sleep (Hypnos) was even personified as a divinity. See the *Iliad* 230ff.; H. J. Rose, *A Handbook of Greek Mythology*, London 1958, p. 23.

⁷ In Heraclitus B 26 sleep and death are also connected.

⁸ On the pleasure which sleep affords see *E.E.* 1216a3; *Pol.* 1339a14-21.

⁹ *E.E.* 1219b18.

tellectual work, but might also contain a veiled attack on contemporary cynics, who did not want to engage in serious political activity or work, and felt that one should indulge in natural needs as sleep and love regardless of time and place¹⁰. It could also be that the text is directed against a view mentioned by Plato in his *Apol.* 40c-e which holds that after death there is no cognitive activity, but a deep, dreamless sleep. For Aristotle it is precisely this absence of knowledge and self-awareness which makes sleep something imperfect and undesirable¹¹.

Other texts bring out a positive aspect of sleep, viz. in sleep the soul becomes isolated from the world, and may enter into contact with the divine¹².

In this particular text Aristotle is drawing upon the protreptical tradition, but the philosophical background of the text is the doctrine of Plato's *Sophist* 248e-249b¹³. While maintaining that being by its own nature is neither movement nor rest, but something different (250c) Plato introduces life and movement into real being. – The exact meaning of Plato's assertion is disputed, yet we can safely say that the passus is more than an attempt to bridge the gap between ideas and sensible things. Plato tries to go beyond the simple form of the theory of ideas, as held by the 'Friends of the Forms' and postulates that what is most real must contain life and activity¹⁴. Chapter nine of *Met.* A must apparently be considered an attempt to work out the doctrine of the First Being in respect of the question of its life and activity.

Aristotle affirms that activity is necessary for happiness. This doctrine is also that of Plato who made happiness into an active quality¹⁵. Speusippus, on the other hand, although retaining the term

¹⁰ Cf. D. R. Dudley, *A History of Cynicism*, London 1937, 27 ff.

¹¹ Cf. *E.N.* 1095b32; 1099a1; 1102b7; *De anima* 412a23-27 (sleep is compared to knowledge in its habitual state) and also the commentary on 1072b17.

¹² Cf. *De philos.* fr. 12a. Cf. also Aeschylus, *Eumenides* 104: εὐδουσα γὰρ φρήν θυμῶν λαμπρύνεται.

¹³ This text had a great impact on later philosophy, in particular, on Neoplatonic thought. Cf. E. R. Dodds, *Proclus, The Elements of Theology*, 1933, 252-253; P. Hadot, 'Etre, vie, pensée chez Plotin, et avant Plotin', in *Les Sources de Plotin*, Vandoeuves-Genève (1960), 107-141.

¹⁴ Cf. L. Robin, *Les rapports de l'être et de la connaissance d'après Platon*, Paris 1957, 106-107; C. J. de Vogel, in *Gymnasium* 1964, 459-460. Plotinus understood τὸ παντελὶς ὂν αὖ δὲ πάντῃ ἐστὶν ὂν· τοῦτο δὲ ὅ μὴδὲν ἀποστατεῖ τοῦ εἶναι (III 6,6 11-12).

¹⁵ Cf. *Phil.* 11d: ἔξιν δυναμένην... τὸν βίον εὐδαίμονα παρέχειν.

ἔξις, gave it the sense of acquisition and possession of good things. – and thus no longer stressed that it is an activity¹⁶. This view is quite close to that of Xenocrates who made happiness to be a κτήσις of virtue and of things subservient to it¹⁷. In *E.N.* 1098b31 ff. Aristotle criticizes this theory and insists that activity is necessary in order to be happy. *Met.* A 9 is also likely to be intended as a criticism of these and similar views.

That there is a connection with the passus of the *Sophistes* is also indicated by the use of the term σεμνόν in b18 which evokes *Soph.* 249a where Plato writes that the supreme reality cannot be venerable and holy, if it is devoid of νοῦς.

In determining the nature of the activity of the supreme being Aristotle proceeds by exclusion. Three possibilities are set forth, of which the first two are excluded: (a) either it thinks nothing, (b) or it thinks something which depends on something else, (c) or its substance is mind or thought.

b17. μὴδὲν here is used adverbially, 'not at all'.

b18. After νοεῖ one would have expected μέν. For other examples of such an ellipsis see *Met.* 981b9 and *Top.* 178a3.

κύριον means to have power over or influence upon something; what is κύριον is also prior to that on which it has influence¹⁸.

The supreme νοῦς cannot have things outside itself as its object of thought, for if so it would become dependent on them. A similar statement occurs in *E.E.* 1245b17: οὐ γὰρ οὕτως ὁ θεὸς εἶ ἔχει, ἀλλὰ βέλτιον ἢ ὥστε ἄλλο τι νοεῖν παρ' αὐτὸς αὐτόν¹⁹. Aristotle adds that for us well-being is related to things we are not ourselves, but that God is his own well-being. Likewise he writes in *Pol.* 1323b24 that God is happy by οὐδὲν τῶν ἐξωτερικῶν ἀγαθῶν ἀλλὰ δι' αὐτὸν αὐτὸς καὶ τῷ ποιός τις εἶναι τὴν φύσιν.

οὐ γὰρ. Γὰρ here introduces a further explanation²⁰, 'in that case'. τοῦτο δὲ ἐστὶν αὐτοῦ ἡ οὐσία. The effect of this periphrastic formula (the subject of the clause) is to stress the most formal element or aspect of the essence of the supreme principle.

¹⁶ Fr. 57 L.

¹⁷ Fr. 77 H.

¹⁸ Cf. *P.A.* 681b16 (673b11) where Aristotle uses the expression τὸ κύριον τῶν αἰσθησέων ('what controls, determines sensation').

¹⁹ Dirlmeier, *Aristoteles. Magna moralia*, Berlin 1958, 470, thinks that the formulation of the problem in *Met.* A 9 is older than the corresponding parts in the *Ethics*.

²⁰ See J. D. Denniston, *The Greek Particles*, p. 66,8.

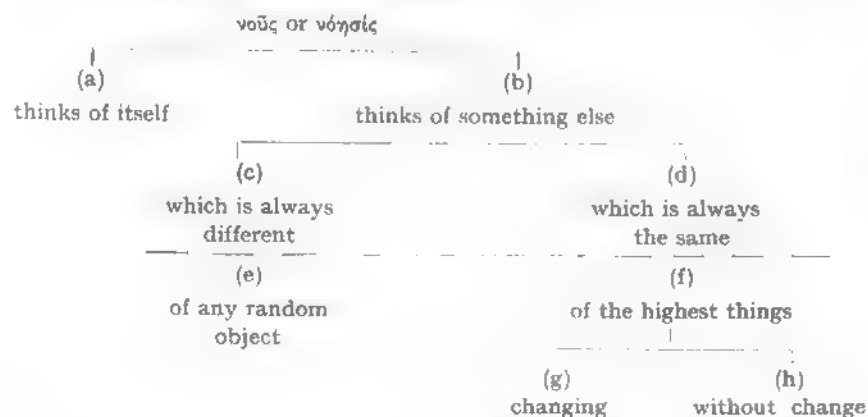
ἀλλὰ δύναιμις. On this assumption the being of the First Principle would not necessarily be actuality; its activity would be different from its very being, and it would no longer be the most perfect being we can conceive of. – F. H. Sandbach transposes lines b28-30 to this place. For a discussion of this proposal see the commentary on b33.

b20. Plato sometimes uses *τίμιος* when describing the reality of the highest principle(s), as, for instance, in *Phil.* 30b. Likewise Aristotle applies the term to imperishable being. Cf. *De anima* 402a1; *P.A.* 644b25ff.; *E.N.* 1102a1. – In *Met.* 983a5 *τίμιος* denotes the highest and most divine form of knowledge and in 1074b29 it is an attribute of *νοῦς*. In this line it signifies ontological perfection, which commands our respect and admiration.

Bonitz, 515, suggests the reading *οὐ γὰρ ἔσται*, because the clause states what would follow, if the assumption would be true. The correction does not seem necessary for also elsewhere a present tense occurs instead of the future. Cf. *De anima* 429a20.

b21. The result of the above argument is that the essence (*οὐσία*) of the first principle is *νοῦς* or thinking. Aristotle now turns to the question of what is the object of its thought.

εἴτε νοῦς... εἴτε νόησις ἔστι. *Νοῦς* is not just the faculty of thought, but also an intuitive grasp of the principles. From this it follows that the opposition between both terms here is not absolute. The real alternative set before the reader is that of whether the first being thinks itself or something else. Aristotle develops a diaeretical argument, which may be schematically rendered as follows.



In the course of the argument (e), (g) and (h) are successively excluded so that (a) is left. – The division is not perfectly regular since Aristotle

does not elaborate on (c) and (d), but connects the next stage of the *diaeresis* with the first one.

This division implies that self-knowledge is distinct from the knowledge of intelligible objects other than the self²¹.

b24. *διαφέρει τι*, to make some difference. – The expression *διαφέρειν οὐδέν* is frequent in the *Corpus*, but *διαφέρειν τι* is seldom. The rhetorical question aims at provoking an outspoken affirmative answer²².

τὸ καλόν here does not mean that which is beautiful for the senses (cf. *P.A.* 639b20) nor an ideal of ethical behaviour (*E.N.* 1136b23), but the perfect being of the first principles (*Met.* N 4). It expresses, better than the term *ἀγαθόν*, the ontological perfection of things above this world of change.

b25. *ἢ καὶ ἄτοπον*. The term *ἄτοπον* here indicates something to be rejected as against the dignity of the supreme principle. Cf. *E.N.* 1149a14-15, where the term is used of certain activities which are out of place or even disgusting.

τὸ διανοεῖσθαι. *διανοεῖσθαι* signifies a process of thinking in which analysis and synthesis are used, whereas *νοεῖν* is a direct grasp or vision of the essence of things²³. *Νοεῖν* does not necessarily mean thought accompanied by perception of sensible things; it is often a reflection upon already acquired knowledge²⁴. In *De anima* 408b24ff. a clear distinction is drawn between these verbs.

περὶ ἐνίων. Probably sensible things are meant, which cannot qualify as objects of the highest knowledge. On repeated occasions Aristotle points out that man should attempt to live in accordance with the highest objects of thought: "We must not follow those who advise us, being men, to think of human things, and, being mortal, of mortal things, but must so far as we can, make ourselves immortal, and strain every nerve to live in accordance with the best thing in us"²⁵.

The term *ἐνίων* may also connote things which provide sensuous pleasure, or tasks to be executed. The first being cannot be concerned with these things. Cf. *E.N.* 1095b14ff.; 1178b20ff.

²¹ Hence R. Norman's interpretation according to which 'thinking itself', means the identity of *νοῦς* and *νοητόν* characteristic of all thought, is not adequate. See chapter seven, note 138.

²² Cf. *Pol.* 1260b17.

²³ Cf. Themistius, *In De Anima* 30,24-26.

²⁴ K. Oehler, *Die Lehre vom noetischen und dianoetischen Denken*, p. 198.

²⁵ *E.N.* 1177b31-34 (Oxford Transl.). Cf. *Protr.* fr. 13 W (Düring B 50-51); *E.N.* 1097b32; *De caelo* 284a14.

b25. θειότατον and τιμιώτατον denote a high degree of ontological perfection. The terms are frequently used as, for instance, in *E.N.* 1141b1-3. In *P.A.* 644b24 they are predicated of imperishable things.

b26. καὶ οὐ μεταβάλλει εἰς χεῖρον κτλ. Since the first being is most perfect, any change would be for the worse. – In view of the definite article before μεταβολή the clause might have the more general sense that change is for the worse. In fact Aristotle places change in the region of contraries, i.e., change is change into the opposite of what a thing was before, and thus reveals the instability and limitation of things. In *Phys.* 222b16 Aristotle writes that changes make things depart from their former state or from their nature²⁶.

b27. καὶ κίνησις τις ἥδη τὸ τοιοῦτον. τὸ τοιοῦτον apparently means the state of change or the situation which results, if there is change. – In this clause κίνησις does not seem to have the same meaning as μεταβολή, whereas in *Phys.* III 1 it is its equivalent. Here it seems to denote a concrete palpable change as for instance in the activity or qualifications of the first being, i.e., a change at the level of accidental being rather than of substance²⁷; μεταβολή would denote a change of the substance of things.

b28-30. These lines set forth two points: change occurring in the object of thought would imply potentiality in the supreme mind. If it has potentiality, continuous activity is difficult (see below), and it would be resting occasionally (which was excluded already). In the second place, if it has potentiality, it would be determined by its object. But such a passivity must be excluded from the first being.

εὐλογον signifies that there are certain indications or probable arguments for a conclusion²⁸.

Aristotle assumes that there is a proportion between the essential structure of a thing and its duration. If there is a potentiality for not being, then this must some time be actualised. If not, it would be there

²⁶ To Plato the form of difference (and later the indeterminate Dyad) was the ground of all change. Cf. *Met.* 1066a11: "Some people identify motion with otherness and inequality and not-being" (Cf. *Phys.* 201b19). All commentators with the exception of Plutarchus agree that Plato is meant. See A. Taylor, *Plato's Timaeus*, 114.

²⁷ Cf. *Phys.* 225b10. In *Phys.* V 1-2 μεταβολή is divided into coming into being and passing away, while κίνησις is divided into alteration, augmentation and decrease. – The question of the precise meaning of both terms has given rise to a dispute. See P. Tannery, in *Archiv für Geschichte der Philosophie* VII (1894), 224-9; IX 115-118; and G. Rodier, *ibid.*, VIII 455-460; IX 185-190.

²⁸ Cf. J. M. Le Blond, *Eulogos et l'argument de convenance chez Aristote*, Paris 1938.

without reason; which would be against the finality of nature²⁹. It is possible that in this context Aristotle has in mind this principle, and wants to say that to actualise for ever a potentiality requires a strenuous activity: this would make the life of the first being a life of toil. Now in Greek philosophical tradition the opposite was assumed to be the case, as we may infer from Melissus fr. 7. – Aristotle himself repeatedly states that the first being is free from change and defects or toil characteristic of mortal being. Cf. *De caelo* 284a14: ἔτι δ' ἀπαθὴς πάσης θνητῆς δυσχερείας ἐστίν, πρὸς δὲ τούτοις ἄπνοος διὰ τὸ μηδεμιᾶς προσδεῖσθαι βιαιᾶς ἀνάγκης³⁰. The 'necessity' of which this text speaks is to be understood as a force which upsets events, and tries to prevent things from reaching their natural end. Plato placed this ἀνάγκη in the sublunar world, which, according to Aristotle, is the realm of contraries and change. Aristotle also draws attention to the fact that all sensitive life is accompanied by pain³¹.

τὸ συνεχὲς τῆς νοήσεως, the continued state of its contemplation. The construction in which the neuter singular (or plural) of a substantivized adjective is followed by the genitive of the noun is frequent. Cf. *Apol.* 41c: ἀμήχανον ἂν εἴη εὐδαιμονίας and *Rep.* 579b: ἐν παντὶ κακοῦ εἶναι.

b29-35. This passus brings a second argument in support of Aristotle's doctrine that the first being has only itself as the object of its thinking: if this object would not be the first being itself but something else, it would be of higher rank than the first being.

Underlying this statement is the doctrine that the object of thought determines the mind and reduces it from a state of potentiality to a state of actuality³². Cf. *De anima* 429a13ff. (ἢ πάσχειν τι ἂν εἴη ὑπὸ τοῦ νοητοῦ ἢ τι τοιοῦτον ἕτερον). Aristotle explains this 'receiving' by the intellect: it is to be acted upon by the object of thought, without the intellect being altered in its own nature, for it is ἀπαθὲς³³. From this it follows that the verb πάσχειν, when used of the mind, does not

²⁹ Cf. *De caelo* 281a28-33; *Met.* 1050b22-27; *De somno* 454a26-29.

³⁰ See also *De caelo* 292a22; *E.N.* 1178b8; *Pol.* 1325b28.

³¹ *E.N.* 1154a7; ἀεὶ γὰρ πονεῖ τὸ ζῷον.

³² Greek philosophers held that in sensation the percipient is passive, and receives something from the object. See J. Beare, *Greek Theories of Elementary Cognition*, p. 213. – Aristotle subscribes to this, as for instance, in *De sensu* 439a13; *De anima* 417b6; 418a3: (ἐπίδοσις εἰς αὐτὸ καὶ εἰς ἐντελέχειαν), and holds that in thinking something analogous occurs.

³³ *De anima* 429a15.

signify a change brought about by that which is contrary, but an actualization of a potentiality.

b31. καὶ γὰρ τὸ νοεῖν κτλ. I think that this clause supports the truth of the main clause by adducing other evidence³⁴. Καὶ is probably not correlative with the following καὶ before νόησις, as it sometimes is in similar constructions³⁵. For τὸ νοεῖν and ἡ νόησις are almost identical and there is no reason to translate the terms in such a way as to make a distinction between them by means of the particles 'both... and'.

As to its contents the clause asserts that if the first being does not think of itself, but of something else, it risks to think of worthless things, – but this conclusion ought to be rejected. In general this argument presupposes that there is a hierarchy of objects of thought: certain objects are of value, others trivial. In his *Republic* Plato distinguished between several types of knowledge, each of which deals with a level of reality³⁶. Aristotle's well-known division of sciences in *Met.* E 1 is also based upon a division of reality. Changing and perishable things are of lower rank than unchangeable reality. – Τὸ χεῖριστον in the text would then signify corruptible things, or a class of corruptible things.

However, in the *Corpus* there also appears another line of thought according to which one must go beyond the immediate object to study the causes of things; in order to do so one must depart from visible things (*Phys.* 184a10–b14; *Met.* A 1, 2); even in material things a marvellous wisdom is hidden (*P.A.* 644b22–645a36). In close agreement with this the theory of knowledge as set forth in the *De anima* holds that the object has no influence upon the mind other than that of actualising it to something which it already was in potency³⁷.

It would seem that there is a discrepancy between Aristotle's doctrine of knowledge in general and the theory contained in this passus of A 9. We may perhaps assume that the passus belongs to the class of protreptical writings, and may be compared to what Plato writes in his *First Alcibiades* 134d–e: we must act having our eyes turned towards the divine and should not look upon sinful things, because then our deeds become like these³⁸.

³⁴ For some examples of this use of γὰρ see *Symp.* 192a and *Rep.* 441a. It may be translated by 'for in fact', and 'and further'.

³⁵ For some examples see Denniston, *The Greek Particles*, 169 and *Phaedo* 66c.

³⁶ *Rep.* 509d ff.

³⁷ 408b25; 429a15; 431b21.

³⁸ On the relationship between this dialogue and A 7 and 9, see the Introduction III.

b33–34. εἴπερ ἐστὶ τὸ κράτιστον. In Plato's dialogues the term κράτιστον not only signifies the most perfect being, but also that which commands others³⁹. The term is very well suited to stress that the first being is not influenced by other things, but is entirely independent.

With this conclusion the argument is finished, but to the reader it is not yet very clear what is the precise meaning of the assertion that God knows himself. The text of this chapter appears to exclude from God any knowledge of things which are not himself, for this would make God passive and dependent on things. If this is correct, the first being would not even know about the world.

Such an inference, on the other hand, is astonishing since it would take away from the first principle something which, as a principle of other things, it should possess. – Moreover, certain texts as, for instance, *Met.* 1000b3–6, clearly imply that the supreme being must have a knowledge of all things⁴⁰. In *Met.* 983a8–10 Aristotle states that God is a cause of all things and a principle (ὁ τε γὰρ θεὸς δοκεῖ τῶν αἰτίων πᾶσιν εἶναι καὶ ἀρχὴ τις). Since God knows himself, he knows all things, since he is their principle.

According to Ross these texts bring a doctrine which is inconsistent with the account in *Met.* A 9 where God's thought is said to have no other object but himself⁴¹. Although inconsistencies between views expressed in different parts of the *Corpus* do occur, I do not think that it is necessary to assume that A 9 excludes from the First Being all knowledge of the world. According to the metaphysics of A 7 and 9⁴² the world is dependent on the First Being, if not in its being, at least in its activity. As I have pointed out in the commentary on chapter seven, the first or highest being contains the fulness of being. In so far, its self-knowledge is also a knowledge of the world. It comprises, in a sense, the changes occurring in the world, for all change is in view of a terminus, which is a formal perfection. Now, the first being is the best

³⁹ Cf. *Tim.* 40a; 71a; *Laws* 895b.

⁴⁰ In this text Aristotle criticizes Empedocles for upholding a theory which makes God someone less wise than other things: since God lacks strife, he would not know strife, i.e., a considerable part of process in the world.

⁴¹ Aristotle's *Metaphysics*, I 123. Cf. also P. Aubenque, *Le problème de l'être*, 66 n. 1. E. Zeller also excluded knowledge of the world from the Aristotelean First Being (II, 2, 382). If one follows this line of interpretation one cannot but ascribe a certain dualism to Aristotle. See B. A. G. Fuller, 'The Theory of God in Book A of Aristotle's *Metaphysics*', in *The Philosophical Review* XVI (1907), 170–183, p. 177. On the theory of the logical universe of interrelated forms as the object of divine knowledge see also the Introduction, II.

⁴² I assume that chapter nine is, in its doctrine, continuous with chapter seven.

of all things. Hence it is the τέλος of all process⁴³. It would follow that by knowing itself it knows whatever is really the object of ἐπιστήμη. This knowledge never is a knowledge turned to the world, but remains entirely concerned with the being of the First Mover; it does not even regard its causality in as far as this produces certain effects. – Aristotle did not work out this point, yet it is his merit to have made plain that the first being cannot have things outside itself as an object of its knowledge⁴⁴. – That the supreme Mind thinks the essences of all beings is also intimated by the comparison of its activity with that of productive sciences. See the commentary on 1074b38-1075a5.

F. H. Sandbach, drawing attention to an irregularity of the diaeresis (b23), suggested to transpose b28-30 to b20 after (οὐσία εἴη)⁴⁵. A further point on which he based this proposal are the terms καὶ γὰρ in b31 which make only an imperfect connection, as well as the occurrence of δύναμις in b28 (which should come after b20). – This transposition does not seem to be necessary. Contrary to what Sandbach assumes, I do not think that b21 (εἴτε νοῦς ἢ οὐσία αὐτοῦ εἴτε νόησις) belongs to the diaeresis, since the division concerns the question of what the first being thinks (τί νοεῖ). – The diaeresis is fairly regular and proceeds *per exclusionem*.

The lines b28-30 which Sandbach wants to transpose set forth two points: when the supreme nous would be thinking of changing, i.e., different objects, it would have some potentiality. Now, wherever there is potentiality, continuous activity is difficult. However, in the first part of the chapter it was argued that the first principle is continuously active. Hence it cannot be thinking now of this, then of that object. Furthermore, when the first nous would have potentiality, it would be determined by its objects. But this must also be rejected. – I think that this perfectly fits the argument concerning the object of the knowledge of the first being. Hence there is no pressing reason for the transposition. – The particles καὶ γὰρ in b31 introduce a further argument and, contrary to what Sandbach writes, do not create any difficulty. An explanation similar to the one given here may also be

■ Cf. *De caelo* 279a25-30; 284a4-11.

⁴⁴ The knowledge of the world which is compatible with the general doctrine of chapter nine is to be distinguished from what in scholastic philosophy is called the *scientia simplicis intelligentiae*. Aristotle did away with the ontology of participation, and thus the first being does not know itself as a possible source of things. Yet since it is the first it has what other things have, and so it knows them by knowing itself.

⁴⁵ F. H. Sandbach, 'A Transposition in Aristotle, *Metaphysics* A c. 9, 1074b3, in *Mnemosyne* Ser. 4,7 (1954), 39-43.

found in H. J. Kraemer, 'Grundfragen der aristotelischen Theologie', I 373.

1074b34 καὶ ἔστιν ἡ νόησις νοήσεως νόησις. This clause, one of the most famous in the history of philosophy, summarizes Aristotle's doctrine of the self-knowledge of the first being.

The term νόησις is well chosen: it signifies the actuality of the thinking of the supreme nous. Aristotle does not write ἡ αὐτοῦ νόησις, probably to avoid creating the impression that the first being is composed of a thinking subject and its activity. – The determinate article in ἡ νόησις may have the value of a demonstrative pronoun 'this thinking' or it indicates thinking in its purest form. The genitive νοήσεως is difficult. The expression 'thinking of thinking' has been criticised as a meaningless repetition, which would only say that the thinking of the supreme being is void and has no object^{45a}. It has also been suggested that the genitive has the role of a superlative, as in the expression κακὰ κακῶν so that the words would mean 'supreme thought'⁴⁶. Against this one may object that this use of the genitive is very rare in Greek; more devastating is the fact that on this assumption the sentence is cut loose from what precedes: one would expect an explanation of what it means that the first being thinks itself.

It goes without saying that the identification of subject and object does not mean that the 'thinking of thinking' is object-less. This 'thinking' is the first being and hence it comprises the perfections found at lower levels of reality. Therefore it is an awareness of its perfection in perfect self-identity. By this novel conception Aristotle brought the doctrine of self-knowledge, as taught by Plato, to its finest development. For this reason there is no opposition between chapter nine and 1072b23 (on the primacy of being over thinking).

It is best to consider νοήσεως a genitive of contents ('consisting of thinking') or an objective genitive ('concerning thinking'). The expression is very well chosen and serves the purpose to state that (a) there is no distinction between the thinking subject and its object; (b) that there is no distinction between the thinking subject and mind

^{45a} According to this view the expression would be Aristotle's reaction against the doctrine of Plato's *Parmenides* 132b-c that a thought must have an object. However, it is unthinkable that Aristotle would ever have conceived the possibility of an objectless thought.

⁴⁶ J. Whatmough, 'Degrees of knowing', in *Harvard Studies in Class. Phil.* 63 (1958), 255-263.

on the one hand and its thinking on the other hand; (c) that the first being is pure activity.

The expression 'thinking of thinking' is more precise than 'the first being thinks itself'⁴⁷, for in the latter formulation the distinction between the ontological order and the order of thought is not suppressed, whereas νοήσεως νόησις intimates that the very being of the first principle is thinking, and its thinking is being.

It is not surprising that a text of such a metaphysical depth had a profound influence upon later philosophy. Albinus evokes it in his *Didaskalikos* X 3. Plotinus, V 3, 7, 18-19 writes: τὸ εἶναι οὖν ἐνέργεια, καὶ οὐδέν πρὸς δ' ἡ ἐνέργεια πρὸς αὐτῷ ἄρα⁴⁸. In scholastic philosophy God is defined as subsistent self-thinking⁴⁹.

b35. This clause which states that knowledge, perception, opinion and understanding are knowledge of something else, and only in a concomitant way of their own essence, comes as a surprise after the assertion of b34. We have to do with an objection, the answer to which will be given in b38ff. – The δέ in φαίνεται δέ is pregnant: "As against what we said stands the fact that knowledge etc. seem to be concerned with something else."

The enumeration ἐπιστήμη, αἰσθησις, δόξα, διάνοια occurs in a slightly different order in *De anima* 404b21-22 and 428a4 (νοῦς, ἐπιστήμη, δόξα, αἰσθησις). In the latter text Aristotle says that there are four faculties or habits in virtue of which we judge⁵⁰, and he explains what he means by the individual terms. ἐπιστήμη is a knowledge of the ground(s) and causes of the object. δόξα is a judgement about what is not-necessary, which is attended by a certain conviction, but never attains certitude⁵¹. ἐπιστήμη and δόξα are different not only because they involve a different state of mind in the knowing subject, but also because their respective objects are different. – For Aristotle διάνοια is an intuitive knowledge of principles and a downward movement from the principles to a conclusion. – In b35-36 the highest degrees of knowledge come respectively at the first and at the last place. The clause is perhaps intended as a chiasmus.

⁴⁷ The doctrine that God is so perfect that he can only know himself occurs also elsewhere in the *Corpus*, e.g., in *E.E.* 1245b16-18, and *M.M.* 1213a2-4.

⁴⁸ Cf. also Hippolytus, *Ref.* 7.21.1.

⁴⁹ The expression goes back to Ioannes a. S. Thoma. Cf. However *Summa Theol.* I 14,2 ad 1; I 14,4.

⁵⁰ It is probably better not to speak of faculties, but of types of operation of the mind.

⁵¹ Cf. *Anal. Post.* 89a5-10.

This enumeration of four types of knowledge was prepared by Plato's theory of 'the divided line' and more in particular by texts like *Parm.* 142a: οὐδ' ἄρα ὄνομα ἐστὶν αὐτῷ οὐδὲ λόγος οὐδὲ τις ἐπιστήμη οὐδὲ αἰσθησις οὐδὲ δόξα⁵². It must, however, be kept in mind that the sense of these terms in Plato's dialogues is not quite the same as the one they have in the *Corpus*. For instance, αἰσθησις is the knowledge of the outside world, of which man is a mere recipient, δόξα is a first evaluation and judgement of these data⁵³. In the dialogues διάνοια has a variety of meanings: sometimes it signifies intellectual activity in general, sometimes the object, and on other occasions it is the knowledge of mathematical objects⁵⁴.

b36. αὐτῆς δ' ἐν παρέργῳ. Knowledge by knowing its object knows itself in a concomitant way⁵⁵. This doctrine is further elaborated by Aristotle in *De anima* 429b5-9: when the mind has become its object it is capable of thinking itself (καὶ αὐτὸς δὲ αὐτὸν τότε δύναται νοεῖν)⁵⁶. When the mind becomes the object it becomes itself in actuality mind, i.e., it becomes lighting and shining. This self-knowledge is concomitant to the knowledge of the object.

We may with some probability infer from this text that, in Aristotle's view, man, contrary to deity, does not have a direct knowledge of himself⁵⁷.

b36. ἔτι εἰ ἄλλο κτλ. ἔτι advances a second difficulty: if thinking and being thought are different (as they seem to be), how does the first principle reach its well-being: through thinking or through being thought? – The question presupposes a well developed doctrine of happiness, according to which to be happy also consists in being

⁵² Cf. *Tim.* 28a; 37b-c.

⁵³ See J. Sprute, *Der Begriff der Doxa in der platonischen Philosophie*, Göttingen 1962, 44ff.

⁵⁴ Ast, I 488ff. On the sense of διάνοια cf. G. Jaeger, *op.cit.*, p. 166: "Denken im allgemeinsten Sinn oder genauer... ein fortschreitendes und verbindendes Denken und schliesslich, daraus entwickelt... ein wissenschaftliches Denken".

⁵⁵ The expression ἐν παρέργῳ also occurs in *De rep.* 473a24.

⁵⁶ Ross, following a suggestion of Bywater, reads δι' αὐτοῦ, because he thinks that there would be no point in a reference to self-knowledge (Theiler admits the correction, *Aristoteles. über die Seele*, (1959), 140, but Jannone in the Budé edition retains the reading of the manuscripts). The correction is clearly unwarranted.

⁵⁷ Ch. H. Kahn, 'Sensation and Consciousness in Aristotle's Psychology', *Archiv für Geschichte der Philosophie*, 48 (1966), 43-81 thinks that in other texts Aristotle indicates that for man reason and 'awareness of reason' belong to different faculties. – But Kahn's argument is not convincing.

known by others. The origin of this view must probably be sought in Academic circles. In his *E.E.* 1245b14-19 Aristotle writes that friendship is the essential element of human happiness, because by knowing others people become fully aware of themselves⁵⁸. On the basis of this insight Aristotle developed his theory of ἀντιφιλία, i.e., of mutual relationship and intimacy⁵⁹: One must not only love, but also be loved, and friends should know their mutual feelings. Over against an opinion which made friendship benevolence, Aristotle pointed out that friendship is a communion⁶⁰. In the case of God there is a special problem because for him ἀντιφιλία does not seem possible. The answer is that in deity to know and to be known coincide, and thus also to love and to be loved.

οὐδὲ γὰρ further explain the reason to the contrary: 'that which is knowing' and 'that which is being known' are not the same, their formal essences (i.e., their *ratio*) being different⁶¹. A similar statement is made in *De anima* 426a5: ἐπεὶ δὲ μία μὲν ἐστὶν ἡ ἐνέργεια ἡ τοῦ αἰσθητοῦ καὶ ἡ τοῦ αἰσθητικοῦ, τὸ δ' εἶναι ἕτερον. The concrete activity of thinking is one with its object, yet we must distinguish between both, and this distinction has a basis in reality.

Aristotle does not give an answer to this objection. What he writes in 1075a4-5 (καὶ ἡ νόησις τῷ νοουμένῳ μία) does not affirm more than that the object is conceived by and lives in the act of thinking, and so he does not solve the difficulty. – In b38ff. he points out that, in some cases, to know and the object of knowledge are the same. – It would seem that a solution of the difficulty has to be sought in this direction: in the first being even the formal essence of thinking and that of being thought are the same, because its very being is subsistent self-knowledge⁶². Thus the objection which remains unanswered intimates once more that the being of the first principle must be different from the things man knows.

b38 - 1075a5: In certain cases thinking (the concept) and the object

⁵⁸ Cf. *E.N.* 1170a32-b5; b17-19.

⁵⁹ *E.E.* 1236a14-15; b3-4. A. J. Voelke, *Les rapports avec autrui dans la philosophie grecque d'Aristote à Panétiüs*, Paris 1961, 43-44.

⁶⁰ Cf. Gauthier and Jolif, *L'Ethique à Nicomaque*, II 671.

⁶¹ The expression τὸ εἶναι νοήσει is analogous to τὸ ἀνθρώπῳ εἶναι or τὸ αἵματι εἶναι (*P.A.* 640a34; 649b22). The dative is best understood as a possessive dative ('what is proper to', 'what belongs to').

⁶² In his commentary on the text Averroes (ed. Venetiis 1562, p. 322 E) points out that the union of the thinking activity and of its object is not something which consists of two elements, but a higher type of unity.

of thought are the same. Hence *a fortiori* pure thinking will also be the same as its object.

In this passus the inner process of a certain type of productive activity is compared with and said to be the same as that of pure thinking. H. J. Kraemer sees in this an intimation of a connection between the concept of the First Mover of Aristotle and that of the Demiurge as conceived by the Academy⁶³. According to Kraemer the supreme Mind would always think the plan of the structure of the world, just like a workman thinks the things which he is going to make⁶⁴. – I do agree with Kraemer as to the inference that the supreme Mind thinks the essences of all things (see the commentary on 1074b33-34): however, as far as I can see, the comparison with τῶν ποιητικῶν as well as the reference to productive arts in *A* 3 create at the most a slight probability for this, as our analysis of the text is to show.

ἡ is used to introduce the answer to a question previously raised. Cf. *E.N.* 1097a10; 1110b1 etc.; Bonitz, *Index* 313a16-21. One may translate it by 'would not the answer be that...'

ἐπ' ἐνίων κτλ. Ross, following ps. Alexander, 713,21ff., assumes that Aristotle means the arts (productive sciences) and theoretical sciences; the restrictive function of ἐπ' ἐνίων would consist in that one would only consider the form of the object of the productive arts, leaving out matter (cf. ps. Alexander, 713,21-22). In this interpretation ἐπ' ἐνίων would comprise most (if not all) of the branches of intellectual knowledge, this despite the fact that the term seems to single out only some of these. One may object against ps. Alexander's interpretation that the words ἐπὶ μὲν τῶν ποιητικῶν ἀνευ ὕλης are an unusual way of saying that when one omits matter from the object of productive arts, there is identity between the idea and the object. A more natural explanation is to assume that the terms refer to those arts whose object abstracts from matter in general or from sensible matter, as does mathematics. The terms τῶν ποιητικῶν ἀνευ ὕλης would then mean mathematical sciences, and secundarily, dialectic, analytics and apodeictic. This interpretation derives support from the fact that in *Rep.* 527a-b Plato intimates that in his days geometrics was practised

⁶³ 'Grundfragen der arist. Theol. II', p. 498.

⁶⁴ *Ibid.*: "...der göttliche Nus sich wie die menschliche Techne schon dadurch auf sich selbst bezieht, dass er einen ihm innewohnenden Bauplan, ein Grundgerüst der Wirklichkeit, in Ewigkeit erfasst". The author quotes W. Theiler, 'Ein vergessenes Aristoteleszeugnis', in *JHS* 77 (1959), 127-131, p. 130 who is of the same opinion.

with the help of a number of instruments⁶⁵. Correspondingly the term *ποιεῖν* was frequently used to denote geometrical operations⁶⁶, such despite the fact that essentially these operations remain limited to the mind of the mathematician, and that no change occurs in the object of mathematics. Aristotle probably professed this theory of mathematics⁶⁷. E.g., in *Met.* 1025b30-32 'curved' is called a form without (sensible) matter, and said to be the object of mathematics. In view of this the expression *τῶν ποιητικῶν ἀνευ ὕλης* is likely to signify mathematical disciplines.

ἡ οὐσία καὶ τὸ τί ἦν εἶναι. The formal essence of geometrical objects is the same as the *πρᾶγμα*, i.e., the thing which is the object of thought. *οὐσία* here does not signify the concrete substance, but the essence (1035b22; 1037a5).

According to this interpretation mathematics would not have been called *theoretical* sciences by Aristotle at the moment he wrote this text. One might object against this that in *Met.* E 1 the contrary is asserted. To this I would answer that the original sense of the verb *θεωρεῖν* is that of watching a spectacle; from this the sense of 'contemplation of things' was derived. Hence, when the physical existence of ideas and mathematical entities was denied by Aristotle, he may at first have hesitated to call mathematics theoretical sciences, because they do not deal with subsistent things. Later, i.e., in *Met.* E 1, he did resort to this terminology.

1075a2. ὁ λόγος τὸ πρᾶγμα καὶ ἡ νόησις. It is best to translate 'the definition and the actual thinking are the *πρᾶγμα*'. In this clause *λόγος* means process of thinking which grasps the essence of a thing. *πρᾶγμα* denotes a thing which is the object of the cognitive faculties, and also a state of mind or affection which is being known⁶⁸. A similar statement is made in the *De anima* 430a20: τὸ δ' αὐτὸ ἐστὶν ἡ κατ'

⁶⁵ Plato himself appears to have been afraid that his disciples depended too much on instruments and geometrical figures. Cf. Plutarchus, *Conv. Disp.* VIII 2, 718 F.

⁶⁶ Ch. Mugler, *Dictionnaire historique de la terminologie géométrique des Grecs*, Paris 1957, 350-351. Cf. *Meteor.* 376b9; b14.

⁶⁷ Cf. A. Mansion, *Introduction à la physique arist.*, 181-2. In *Anal. Post.* 71a3-4 the mathematical disciplines are called τέχναι. Τέχνη which is sometimes almost synonymous with ἐπιστήμη (Cf. *Anal. Pr.* 46a22; *Met.* 981a2-3), denotes not only production in matter, but also production without matter (*Met.* 981b23 - 982a1 ranks 'mathematical arts' under the kinds of theoretical knowledge).

⁶⁸ Cf. *De anima* 403b2; 404b18 (δύναμις); 404b25; 431b21-22.

ἐνέργειαν ἐπιστήμη τῷ πράγματι⁶⁹. This doctrine is based upon the fact that in the process of knowledge the mind, which is of a wholly peculiar nature, becomes things in actuality. – Upon closer inspection the sense of τὸ πρᾶγμα as used in this passus seems to differ somewhat from that in the *De anima* III 5: in the latter text it means the object in as far as it is intellectually known (i.e., by means of abstraction), while in 1075a3 the term signifies the object, which in the case of the non-theoretical sciences exists concretely. – The identification of which *De anima* III 5 speaks holds true not only for intellectual knowledge but also for all other knowledge. On the other hand, the identity mentioned by A 9 and a number of texts of the *De anima* only applies to knowledge the object of which as such does not exist as an individual being, but not to other types of knowledge nor to sensitive cognition.

a3-5. In the generally excellent Codex J (Vindobonensis) these lines (τοῦ νοουμένου... νόησις) are found in the margin. The lines are indeed awkward and repeat what has already been stated.

a4. In the previous lines ἐπιστήμη was said to be identical with its object, here νοῦς. Apparently νοῦς is the mind which is actually thinking. – One may compare *De anima* 429b30: δυνάμει πῶς ἐστὶ τὰ νοητὰ ὁ νοῦς, ἀλλ' ἐντελεχεία οὐδὲν πρὶν ἂν νοῇ.

ὅσα μὴ ὕλην ἔχει, the objects of thought which have no matter.

τὸ αὐτὸ ἐστὶν. With these words the apodosis begins. Its subject is primary thinking (pure νόησις). The argument which is not made explicit apparently is that this thinking is theoretical knowledge in its purest form; it is farthest removed from matter and therefore identical with its object. The text says that the thinking subject is the same as its object. From this we infer that it is also its own thinking.

ὅσα μὴ ὕλην ἔχει. From the context it becomes clear that the subject is mind (see 1075a7). Ps. Alexander, 713,26, notes that this argument contains an implicit answer to the dilemma stated in b37-38: well-being belongs to pure thinking both in as far as it thinks and in as far as it is an object of thought⁷⁰.

⁶⁹ Cf. also 430a4: ἡ γὰρ ἐπιστήμη ἡ θεωρητικὴ καὶ τὸ οὕτως ἐπιστητὸν τὸ αὐτὸ ἐστὶν.

⁷⁰ R. Norman, *op.cit.*, 71, points out that the lines on αὐτὸ ποιητικὰ ἐπιστήμαι, whose object is the essence in abstraction from matter, establish beyond doubt that the thinking of the First Mover is abstract thought rather than self-knowledge. – To this I would say that our passus does not adequately state the doctrine contained in the first section of the chapter but only brings out one aspect of it, viz. the identity of thinking and being thought. As H. J. Kraemer

a4. καὶ ἡ νόησις. Aristotle apparently means the absolute thinking mentioned in b34.

It is certainly surprising that this passus (1094b35-1075a5) comes after Aristotle has laid down his unparalleled doctrine of subsistent thinking. It takes the discussion back to a problem that has been solved and left behind. Apparently the chapter does not form a strict unity but offers a summary of a number of different arguments. In the next passus, 1075a5-10, Aristotle turns to the question of whether that which is thought is composite.

a5-10. Are the contents of divine thinking composed? If the object of thought is composite, thinking itself will also show this structure. For if it would know (that is, would *be*) the composite object in one single act, it would reduce the multiple parts to a unity, and the object would no longer be composed. If thinking would be concerned now with this part of the object, then with another part, thinking itself would change continuously. But the first being is above change⁷¹. Hence its thinking cannot have an object which is composite.

ἐν τοῖς μέρεσι τοῦ ὅλου. When considering the parts of a whole, mind becomes each time such a part.

a6. ἡ ἀδιαίρετον κατὰ. The solution of the problem (ἡ) is that a being which has no matter (like the human mind, and *a fortiori* the supreme nous) is itself indivisible. – 'Αδιαίρετος when applied to mind signifies that it has no parts and that its activity is one indivisible mental act. Cf. *De anima* 430b15.

This reply, however, does not perfectly answer the difficulty, because man's mind, be it indivisible, successively thinks of different objects. For this reason Aristotle adds that it is best to assume that only thinking concerning composite things takes place in a certain time, but that pure thinking is continued for ever.

Bonitz, following Ravaisson, secludes ἡ in a8 and takes the clause to say that 'just like the human mind, although it thinks of composite things, is sometimes in such a state, God's thinking is for ever'. – This makes the understanding of the argument difficult, and does not adequately render γὰρ. – ἡ should be rendered by 'or <is the solution not rather that>'. γὰρ is limitative, viz. *that mind*, which is concerned

vigorously points out, the comparison of the thinking of the Unmoved Mover with some arts and theoretical sciences shows that this thinking has a definite content (in *Theologie und Philosophie* 44 (1969), 371-372).

⁷¹ The passus should be read against the background of the discussion in the *De anima* 426b15 ff.

with composite things, is in a certain time (but not the divine mind). This second part of the argument is not stated explicitly, as often happens after γὰρ⁷². The words οὐ γὰρ ἔχει τὸ εὖ κατὰ provide an explanation of why the supreme mind does not think in a certain time.

A more difficult question is that of whether συνθέτων is a subjective or an objective genitive. Ross following ps. Alexander, understands the words as signifying 'mind of beings which are composed of form and matter'⁷³.

In view of the context (esp. εἰ σύνθετον τὸ νοούμενον, in a5) I think that Bonitz' interpretation is better: 'the thinking of the mind concerning composite things, takes place in a certain time'. Bonitz draws attention to *Met.* Θ 10 and believes that compounds like 'white man' and 'sleeping Socrates' are meant.

ἐν τινι χρόνῳ is difficult. I would hesitatingly advance the following explanation: in *De caelo* 288b30-289a4 Aristotle argues that just like other movements in nature, the revolution of the first heaven requires a minimum time for its completion⁷⁴. When thinking of composite things, the mind itself becomes these things, and so the process of thinking becomes extended in time. Now this is precisely what does not happen in the case of the first mind. But this is not explicitly stated; instead of this Aristotle returns to the question of the composition of the object.

a8-9. In his edition of the text Christ writes "locus gravior corruptus et transpositione sanandus, ut aut οὕτως δ' αἰῶνα ante ὥσπερ ὁ ἀνθ., aut οὐ γὰρ ἔχει... ἄλλοτε ante ὥσπερ... χρόνῳ οὕτως ἔχει – αἰῶνα collocetur". There is no doubt that the lines are difficult, but before resorting to such a transposition we must first explore if the lines as the manuscripts give them, cannot be explained in a satisfactory manner.

⁷² See Denniston, *op.cit.*, 133ff. G. Reale, *op.cit.*, II 303, n. 14 proposes to read, after Diano (*Metaf.*, libro XII, Bari 1948-1949, p. 18), μὴ δὲ γὰρ κατὰ and translates: "l'intelligenza, almeno, che non pensa dei composti", but this makes the clause even less intelligible.

⁷³ Ps. Alexander 714,17. – As favouring his position Ross notes that νοῦς with an objective genitive is difficult; furthermore τὰ σύνθετα are properly speaking not the object of νοῦς but of ἐπιστήμη.

⁷⁴ The idea of a minimum time, when mathematically considered, does perhaps not make much sense (since time is infinitely divisible. Cf. Simplicius, *In De caelo*, 433,22), but considering it from the point of view of physics it could be related to Aristotle's doctrine that organisms need a minimum quantity of matter and a certain time in order to live and execute their main task. Cf.

οὐ γὰρ καλ., 'but is it not a fact that...'⁷⁵. I take τὸ ἄριστον to be the subject of the clause and translate: 'the most excellent being, being something different (from man), does not possess its good in this or that particular object, but in the knowledge of an object which is adequate to its being'⁷⁶.

Ross understands the sentence as follows: 'human reason does not possess the good in this particular time or in that, but it possesses the highest good in a certain whole period, i.e., in a well-organised life of activity. – Against this interpretation one may object that it disregards the argument (why the first being cannot think of composite things); furthermore, it is strange that τὸ εὔ is replaced by τὸ ἄριστον in the 2nd half of the clause; δὲ ἄλλο τι becomes meaningless: because man's highest good is different from himself, he would need time to attain it; yet, it would seem that for Aristotle man's highest good lies in himself.

a10. αὐτὴ ἡ νόησις 'thinking itself', 'pure thinking'. This line states that God knows himself for ever and never changes. Aristotle here intimates Boethius' definition of eternity as a *tota simul possessio*⁷⁷. – Bonitz reads οὕτως δὲ and this may well be right.

G.C. 336b11: διὸ καὶ οἱ χρόνοι καὶ οἱ βίοι ἐκάστων ἀριθμὸν ἔχουσι καὶ τοῦτο διαρίζονται· πᾶς βίος καὶ χρόνος μετρεῖται περιόδῳ. – The Pythagorean theory of a critical time (καιρός) in which things reach their fulfilment may have had some influence on this doctrine. Cf. *Mel.* 985b27-31; 1078b21-23; P. Kucharski, in *Revue philosophique*, 1963, 141-169.

⁷⁵ See Denniston, *op.cit.*, 79.

⁷⁶ In 1074b33 and in *De caelo* 279a25 the supreme principle is called 'the best' of beings. – While maintaining τὸ ἄριστον as the subject of the clause, one may translate ἐν τῷδε ἢ ἐν τῷδι by 'in this or that particular time' and ἐν ὅλῳ by 'a whole period', but in view of the context I prefer the interpretation given above. V. Cousin suggests that the words ἐν τινι χρόνῳ could signify those moments in which the human mind attains the perfection of the divine mind (*De la Métaphysique d'Aristote*, Paris 1838, 215); the author reads a stop after ὅλην in line a7 and interprets the last lines of the chapter as one clause which repeats the statement of 1072b24-26. In doing so he is forced to make τὸ ἄριστον the complement of ἔχει. Cousin himself apparently was not so sure about this interpretation and advances a second explanation which is quite close to the way in which I understand the text: "Encore toute intelligence qui tient à un composé existe dans une certaine partie du temps. Or l'être le plus excellent ne jouit pas de la perfection suprême dans telle portion de la durée; mais, tout différent en cela de l'esprit humaine, il la possède dans une durée infinie, qui est pour lui comme un mouvement indivisible".

⁷⁷ Cf. G. Wunderle, 'Über den Begriff des αἰδίου bei Aristoteles', in *Festschrift C. von Hertling*, Freiburg 1913, 389-399.

CHAPTER TEN

In this chapter Aristotle examines the question of whether the good of the universe is its inherent order or a good outside it. Chapter 7 and 9 set forth the doctrine of the unmoved Mover and supreme Noûs as the extrinsic good of the universe¹, but the first part of chapter ten stresses that the order of the universe is its supreme good².

The remainder, and greater part, of the chapter is a discussion of the theories of other philosophers with regard to the question of whether the first principles are good or not. The chapter ends with a quotation from the *Iliad* illustrating that there is only one principle of order.

There is, I think, a connection between A 10 and E.N. I 6. In chapter six of the First Book of the *Nicomachean Ethics* Aristotle deals with the question of whether all things which are called good share in the same specific essence of goodness (as Plato had assumed they did). Aristotle's answer is negative: there is a fundamental difference between the various classes of things (as, for instance, between substance and accidental being, 1096a19-23), which renders impossible their sharing in the same form of goodness. Aristotle's denial only concerns what scholastic terminology calls univocal predication, for in the same chapter he writes that there must be some basis for the fact that things which belong to different categories are called good, ἀλλ' ἄρα γε τῷ ἀφ' ἑνὸς εἶναι ἢ πρὸς ἐν ἅπαντα συντελεῖν, ἢ μᾶλλον κατ' ἀναλογίαν (1096b27-28). Aristotle does not further explain how this must be understood, and adds that the study of this question belongs more properly to 'another philosophy', i.e., to another philosophical discipline. – A 10 takes up the discussion but does not carry it to an end; although it points to a solution, it does not explicitly formulate it.

As the commentary will show A 10 presupposes the more detailed study of the principles in *Physics* I and the *De generatione et corruptione*.

¹ Cf. 1072b13-14.

² 1075a22-23.

1075a11. ἡ τοῦ ὅλου φύσις, the universe. Cf. expressions as περὶ τῆς τοῦ παντός φύσεως (*De caelo* 268b11) and περὶ τῆς ὅλης φύσεως (*Met.* 1005a33).

κεχωρισμένον τι καὶ αὐτὸ καθ' αὐτό, something separate and existing by itself. – The construction is elliptic and we must supplement 'whether as something, separate... or as the order (inherent to it)'. The term κεχωρισμένον evokes the Platonic theory of principles, which exist apart from concrete and material things³. When writing this chapter Aristotle undoubtedly had in mind Plato's treatise on the Good (*Rep.* VI and VII).

a13. ἡ τὴν τάξιν. The Pythagoreans had laid great stress on the order inherent in the cosmos. This order is the model to which man must conform his life, his house and his city⁴. In his *Gorgias* 506d Plato takes up this Pythagorean doctrine and makes it his own⁵. In *Tim.* 30a Plato describes τάξις as being an effect of God's activity: "Desiring that all things should be good and, so far as might be, nothing imperfect, the god took over all that is visible – not at rest but in disordered and unordered motion – and brought it from disorder into order, since he judged that order was in every way the better" (transl. by Cornford). This view is echoed in the *De philosophia*, fr. 19c Ross: it is proper to God to turn disorder into order. – Aristotle frequently speaks of the order of the world: this order does not consist in the substantial being of the parts of the universe, but in their disposition as well as in their mutual relations and in the forces active in the world⁶. In the *Eudemian Ethics* I 8 he connects order with rest (ἡρεμία) and says that things are beautiful because of their order. Since of the things we perceive those which are good are characterised by order and rest, unchanging things will be so even more.

a13-15. In addition to the alternative just mentioned the good of the universe might also be both its immanent order and an extrinsic principle. Aristotle illustrates this third possibility by the fine comparison with an army. A similar illustration is found in *De philosophia* fr. 12b Ross⁷. In the latter text he describes how an observer on Mount Ida who would see the army of the Greeks advance in marvellous order in the plain below, would conclude that a general must

³ *Met.* 1080b17.

⁴ Jamblichus, *Vita Pyth.* 48.

⁵ C. J. de Vogel, *Pythagoras and Early Pythagoreanism*, 194.

⁶ *De caelo* 280a16-23. Cf. *Met.* 1038a33.

⁷ Cf. also fragm. 17 and M. Untersteiner, *Della filosofia*, Roma 1963, 172. See also the *Protrepticus*, fragm. B 33 Düring, and Düring's comments, *op.cit.*, p. 200.

have arranged it in this way; likewise those who see the sun and stars describe their course begin to look for the source of this order. This fragment then points to a source of order above and beyond the cosmos⁸. This comparison with an army intimates that Aristotle here is thinking of a divine principle of cosmic order transcendent to the universe⁹.

καὶ ὁ στρατηγός, scil. ἐστὶν τὸ ἀγαθόν. The good of an army lies in the commander more than in just the order and discipline of the soldiers, because the commander is the cause of this order. – The preposition διὰ followed by the accusative of the noun may signify formal causality¹⁰, but then formal causality in as far as it is being applied to and present in a thing. – Here Aristotle is thinking of noûs which conceives order and imparts it.

a16. πάντα δὲ συντέτακται πῶς, ἀλλ' οὐχ ὁμοίως, all things have been ordered and set in an organised whole, but in different ways¹¹. – From the comparison in lines a19-23 we may perhaps infer that the οὐχ ὁμοίως must be understood as saying that certain parts of the cosmos contribute less to the common good of the cosmos than others, or even that part of their activity has no relation to the common good. – Lines a16-17 evoke the principle that nature does nothing in vain¹².

καὶ πλωτὰ καὶ πτηνὰ καὶ φυτὰ. Bonitz, 519, suggests to place ἀλλ' οὐχ ὁμοίως after the second συντέτακται of line a19. With Bekker, and Ross I do not think that this transposition is necessary, but Bonitz is right in asserting that καὶ πλωτὰ κτλ. are to be connected with πάντα δὲ συντέτακται πῶς.

⁸ H. J. Kraemer, *Der Ursprung der Geistmetaphysik*, Amsterdam 1964, 179, n. 183, points out how this theme of the First Being or unmoved Mover maintaining the τάξις of the world influenced later philosophy, as, for instance, Numenius (fr. 24 L), Maximus of Tyre (*Dial.* XI 12a) and Albinus (*Didask.* X 165,3ff.). In the last analysis it would depend on Academic thought.

⁹ See R. Mugnier, *La théorie du premier moteur et l'évolution de la pensée aristotélécienne*, Paris 1930, 126-127. Cf. also *Met.* K. 1060a26-27: πῶς γὰρ ἔσται τάξις μὴ τινος ὄντος ἀίδιου καὶ χωριστοῦ καὶ μένοντος; – The comparison with an army and its general is also found in the *De mundo* 399a12-b26.

¹⁰ Cf. *Met.* 983a28-29; *Phys.* 194b19; W. J. Verdenius, in *Phronesis*, 1960, p. 61, argues that διὰ intimates that Aristotle ascribed efficient causality to the First Mover.

¹¹ Ps. Alexander, 715,17, paraphrases συντέτακται as follows: πρὸς ἑνὸς κόσμου συμπλήρωσιν καὶ ἀπκρητισμὸν καὶ τὸ καλὸν αὐτοῦ καὶ ἄριστον καὶ εὖ.

¹² I. Düring, *Aristoteles*, 244, thinks that the passus contains a reference to the theory of ideas, in which the relation between the forms and the material world is assumed to be always the same, but there hardly is such a reference.

The clause apparently intends to say that the living beings belonging to the natural places of earth, water and air also serve the common good, even if they do so in a less perfect way than the celestial bodies¹³. In the *De caelo* II 2 Aristotle also intimates that the different classes of being are inserted into the structure of the cosmos in different ways. Recalling the Pythagorean doctrine of the three directions (front-back, above-below, right-left) he writes that in their activity the plants only have an above and below, but the heaven is so perfect as to have all three directions.

τὰ πεζά are omitted from the enumeration, perhaps because the cosmic region in which they live most properly belongs to the birds.

a17. ὥστε μὴ εἶναι θατέρῳ πρὸς θάτερον μηδέν. Grammatically the clause is difficult. εἶναι θατέρῳ πρὸς θάτερον is perhaps best understood as being analogous to expressions like τὸ ἀνθρώπῳ εἶναι, the article having been dropped because of the negation. I take εἶναι θατέρῳ πρὸς θάτερον to be the subject of the clause. Ellipsis of the verb after ὥστε is not infrequent. Especially in this clause repetition of εἶναι would have been awkward. That εἶναι κτλ. is the subject also follows from ἀλλ' ἔστι τι. – The translation, then, becomes: 'so that there is nothing which is not related to the other things', or rather: 'so that there is no being not mutually related at all'.

ἀλλ' ἔστι τι, but there is a certain mutual relationship. Τι refers to εἶναι θατέρῳ πρὸς θάτερον.

1075a18. πρὸς μὲν γὰρ ἐν ἅπαντα συντέτακται, ἀλλ' ὥσπερ ἐν οἰκίᾳ. The construction is harsh, however not to such an extent as to require the transposition of ἀλλ' οὐχ ὁμοίως of line a16 to a19. – In *E.N.* 1096b28 Aristotle likewise states that beings although belonging to different classes, are called good because they all find their achievement in one (supreme being), πρὸς ἐν ἅπαντα συντελεῖν. The text does not explicitly say whether this one thing is the immanent good of the universe or a transcendent principle. – The comparison with an army and its general, as well as the νοῦς doctrine of cc. 7 and 9 make it probable that in chapter ten a transcendent principle is meant. As Robin writes, in Aristotle's philosophy everything is connected with everything, in this sense that the essences of things form a chain: the higher essence contains the lower forms, is more determined and is to a greater degree actuality¹⁴.

¹³ Cf. *De philosophia*, fr. 13 Ross.

¹⁴ L. Robin, 'Sur la conception aristotélécienne de la causalité', in *Archiv für Geschichte der Philosophie* 23 (1910), 184–210, p. 206.

a19–20. The following lines compare the universe to a house whose master, family and friends lead a very regular life, in which everything is carefully planned, but the slaves and domestic animals work without a plan. – At first sight this observation seems strange: the slaves seem to be working according to a set program, while the free citizens dispose of their time at will, and this is perhaps why Christ excises these lines. As I see it, the answer to this difficulty is that the citizens keep the well-being of the community constantly in mind, while the slaves work for the casual needs of an individual person or individual house. Ps. Alexander, 716,1–9, likewise explains εἰ τι ἔτυχε as denoting work required to fulfil individual or ephemeral needs. – D. J. Allan comparing the text with *Ephn.* 982d (the stars never change their purpose, doing now this, then that) suggests that Aristotle may be reproaching the Athenian democracy for its excessive freedom¹⁵. – This is hard to prove. The sense of the passus is rather that free citizens consciously work for the good of the city and seek truth, so that in its essential orientation their life shows a great deal of consistency¹⁶.

a22. τοιαύτη γὰρ ἐκάστου ἀρχὴ αὐτῶν ἢ φύσις ἐστίν¹⁷. Ross paraphrases this line as follows: nature produces obedience to duty in the higher creatures, caprice in the lower, – and he apparently connects it with a19–22. But one could also take it to confirm a18–19: by its nature everything is ordered in its own peculiar way to the good of the entire universe. 'Ἡ φύσις is best understood as the specific nature of each class of beings in as far as it is depending on and determined by Nature in general¹⁸.

M. Untersteiner sees a certain connection between the contents of this passus and the *argumentum ex gradibus* of *De philos.* fr. 16 Ross¹⁹, but such a connection is at best only remote.

a23. To explain, – or to prove –, the assertion Aristotle adds that even seemingly wholly useless things, as monstrosities, sickness, etc.,

¹⁵ 'Individual and State in the Ethics and Politics', in *La Politique d'Aristote*, (Fondation Hardt), Vandoeuvres-Genève 1965, 55–95.

¹⁶ In *G.A.* 744b17–21 Aristotle uses the same example to show that there is purpose in nature: in housekeeping the best of the available food is reserved for the freemen; what is left over from this goes to the servants and the worst of all goes to the domestic animals. Likewise Nature does not waste anything.

¹⁷ The Greek is far from elegant. Jaeger reads ἀρχή before ἐκάστου, Zeller after φύσις, Christ excises the whole clause.

¹⁸ Cf. *De caelo* 268b14–16 where φύσις signifies both the specific nature as a source of motion and this nature as part of the whole cosmos and as directed by it. See my *Aristotle's Cosmology*, p. 84.

still contribute to the good of the entire cosmos. The reason is that even when being dissolved themselves, things still are of advantage to others.

The term διακριθῆναι is used by Aristotle to describe the effect of the activity of Hatred in the cosmology of Empedocles, and that of Noûs in Anaxagoras' system²⁰. Aristotle also uses it on his own account, as, for instance, when he describes the process of breaking down a mass of food into small particles and their distribution through the body, or when he wants to denote the process of dissolving or dividing²¹. – Bonitz, 520, writes, with regard to the term, 'quid significet dubium est', yet there is little doubt that here its meaning is 'to be dissolved and distributed to other parts of the universe'. Aristotle may have chosen the term on purpose so as to evoke the doctrine of Empedocles and Anaxagoras, for whom there was nothing useless in the world. – One may compare this clause with *De phil.* fr. 19b Ross where composite bodies are said to be dissolved into their components, and to return to their natural state²².

a24. καὶ ἄλλα οὕτως κτλ. Ps. Alexander, 716,33, proposes to connect this phrase with the example of freedmen and slaves. καὶ ἄλλα would denote the things in nature. – But I do not think that this is right. The clause obviously is to be connected with the immediately preceding words.

Ross translates "and there are other functions similarly in which all share for the good of the whole". In view of the context I would prefer to take ἄλλα to signify the elements "in which all share, for the good of the whole".

a25. In the second part of the chapter Aristotle shows to what extent theories of principles, different from his own, are mistaken. It consists of two parts. A first section 1075a25-b16 deals with theories which posit contrary principles as the last ground of being. In the second section (b16 - 1076a4) Aristotle argues that this type of theories cannot explain why there always is becoming in the universe. In this part of the chapter sentences are concise and terse. It is sometimes difficult to understand which or whose doctrine is envisaged.

a26. οἱ χαριστερώς λέγοντες, philosophers who hold a more ingenious

theory. The term χαρίεις signifies the opposite of φορτικός, crude²³.

δεῖ μὴ λανθάνειν. For a similar expression see *Meteor.* 374b24; *Pol.* 1299b14. – The statement that all make all things consist of contraries is also made in other texts, as, for instance, in *Phys.* 188a19 (πάντες δὴ τὰναντία ἀρχὰς ποιοῦσιν), *Met.* 1004b29 and 1087a29. The same question is touched upon by Aristotle in *Met.* A 3. From this text it would appear that Aristotle when speaking of contrary principles has in mind the four causes and in particular efficient causes. Even a monist like Parmenides was forced to admit, Aristotle says, dual causes like hot and cold.

The πάντες means in the first place those who dealt with process in the world, and probably, denotes the philosophers whose theories were considered most important in Aristotle's days, as the Pythagoreans, Eleatics and Empedocles²⁴.

a28. οὔτε δὲ τὸ πάντα κτλ. Aristotle enumerates three points on which this doctrine is wrong: (a) certain things do not depend on contrary principles. Aristotle probably has in mind the τάκεῖ of the *De caelo* I 9, that is, principles outside this material world, the supreme Noûs or even the first heaven, (which is also free from any contrariety). (b) Aristotle's second criticism (οὔτε τὸ ἐξ ἐναντίων ὁρθῶς) is probably aimed at the Platonists and others who had failed to acknowledge the necessity of a substrate in becoming. Cf. *Phys.* 191a5. From the point of view of the doctrine of the substantial form one should not speak of contraries, but of form and its privation. (c) Aristotle's third criticism is that those who explain everything by contraries do not succeed in providing a satisfactory explanation of how these contraries act the one upon the other. In his own doctrine contrary qualities cannot act the one upon the other, unless they are within the same genus²⁵. Other contrary principles only act upon the substrate²⁶.

²³ Cf. *Met.* 1060a25; *E.N.* 1095a18.

²⁴ Anaxagoras and the atomists seem to form an exception, yet even in their systems there is contrariety of principles, as between Noûs and matter (B 12), and between λόγος and ἀνάγκη (Leucippus B 2). Even in the philosophy of Diogenes of Apollonia there is a certain duality of principles. Cf. W. Theiler, *Zur Geschichte der teleologischen Naturbetrachtung bis auf Aristoteles*, 79. See however also H. Schrekenberg, *Ananke*, München 1964, 119.

²⁵ The *De gener. et corr.* I 7 deals in extenso with the question of action and passion, and of whether things which are different are naturally disposed to reciprocal action and passion. Aristotle's answer is that contraries within the same genus are capable of acting the one upon the other (*G.C.* 324a3-9).

²⁶ *Phys.* 190b33: ὅπ' ἀλλήλων γὰρ πάσχειν τὰναντία ἀδύνατον.

¹⁹ *Della Filosofia*, 201.

²⁰ *Phys.* 252a27; *Met.* 984a11; *Phys.* 265b22. Cf. ps. Alexander, 716,32.

²¹ See *Phys.* 259b13; *G.C.* 327a12.

²² There is, however, no trace in A 10 of the view expressed in the fragment, that composition is an unnatural state.

a31. ἡμῶν δὲ λύεται κτλ. In *Phys.* I 6-7 Aristotle attempts to solve the difficult question in which sense there is reciprocal action and passion between contraries by introducing matter as a third reality²⁷. In view of these texts of the *Physics* it is surprising that Jaeger takes this *tertium quid* to be "absolute thought, the form that is without matter and hence not liable to any change or any contrary"²⁸.

a32. οἱ δὲ τὸ ἕτερον τῶν ἐναντίων ὕλην ποιοῦσιν, ὥσπερ οἱ τὸ ἄνισον τῷ ἴσῳ (scil. ὕλην ποιοῦντες). Aristotle now briefly evokes a Platonic theory, which he mentions more at length in *Met.* 1087b4-18. For many Platonists the One 'informs' or determines the Unequal (the Indeterminate Dyad) and so produces the essences of things²⁹. For Speusippus and those who followed him, the substrate is not the Unequal, but primary multitude³⁰.

a33. λύεται δὲ καὶ τοῦτο. The wording implies that Aristotle is no longer dealing with the theories of contraries of the Presocratics, but with the theory of contrary first principles of Plato's later years and of the Early Academy. The Platonists were forced to make one of their contraries a substrate (or matter). Aristotle points out that matter or the substrate cannot be contrary to anything: for it is capable of receiving everything. When the contraries (or one of them) are matter, they do not really contribute to the substantial nature of things³¹.

Lines a33-34 are similar to *Phys.* 190b33-35: λύεται δὲ καὶ τοῦτο διὰ τὸ ἄλλο εἶναι τὸ ὑποκείμενον· τοῦτο γὰρ οὐκ ἐναντίον.

The codices read ἡ γὰρ ὕλη ἡ μία οὐδενὶ ἐναντίον. This seems to mean that matter does not belong to any pair of contraries, but is by itself³². The expression is somewhat strange. It is true that *Phys.* 191a12 states that matter is one principle (μία μὲν οὖν ἀρχὴ αὕτη), but not one in the sense of a substance. Yet it seems superfluous to stress this point here and it is tempting to follow Jaeger in reading ἡ γὰρ ὕλη ἡμῶν κτλ.³³.

a34-36. These lines point out the third inconvenience of the theory of those who make contraries first principles: one of these contraries will always be evil (φάυλον). An almost identical statement is made in 1091b35: συμβαίνει δὲ πάντα τὰ ὄντα μετέχειν τοῦ κακοῦ ἔξω ἐνός αὐτοῦ τοῦ ἐνός.

On several occasions Aristotle ascribes to Plato the theory that the

²⁷ Cf. 189a25: ἀλλ' ἄμφω ἕτερον τι τρίτον.

²⁸ Aristotle, 227.

²⁹ Cf. *Met.* 1088b32; 1089b6.

³⁰ *Met.* 1091b31 (fr. 35a Lang); 1087b4-9 (fr. 48b Lang).

³¹ *Phys.* 187a27-30.

³² Cf. ps. Alexander, 717,34.

³³ Jaeger follows a manuscript reading used by ps. Alexander, 717,30-33.

second principle is evil³⁴. In *Met.* 988a14 he writes that Plato made his two 'elements' (principles) the causes of good and evil respectively, – as Empedocles and Anaxagoras had done before him. Certain texts of the dialogues, indeed, intimate that Plato admitted a principle from which evil proceeds. In the *Statesman* 274b-c he writes: "The bodily element in its constitution (scil. τῆς συγκράσεως αἵτιον) was responsible for its failure. This bodily factor belonged to it in its most primeval condition; for before it came into its present order as a universe it was an utter chaos of disorder. It is from God's act when He set it in its order that it has received all the virtues it possesses, while it is from its primeval chaotic condition that all the wrongs and evils arise in it – evils which it engenders in turn in the living creatures within it"³⁵. In *Theaet.* 176e Plato asserts that there are two models (παράδειγματων), one of divine happiness, and a second of godless misery. – Even more explicit is the well-known text of *Phil.* 25e-26b. A number of statements in Aristotle's works also say that for Plato the second principle was evil, or the cause of evil. Besides the text of *Met.* 988a14-15, quoted above, one may also compare *Met.* 1084a35; 1091b31-6; *E.E.* 1218a24. In *Phys.* 192a15 Aristotle speaks of the destructive power (τὸ κακοποιόν) of the second principle³⁶.

It is not so clear whether Plato's matter must not only be called a principle of evil, but also be considered evil itself. L. Robin thinks that the second part of the alternative is an inference by Aristotle himself, who went beyond what Plato explicitly said. The future μετέξει in 1075a35 would also be an indication that we have to do here with an inference by Aristotle³⁷. Divergent interpretations have been proposed

³⁴ In his *De Pyth.* fr. 10 Ross Aristotle mentions a Pythagorean theory according to which the right, the above and the front are called good, the left, the below and the behind evil. In *Met.* 985a7-10 Empedocles is said to be the first philosopher who made good and evil principles.

³⁵ Translation by J. B. Skemp. The σωματωεῖδες accounts for the opposition to the Demiurge and in this it resembles the Necessity of the *Timaeus*. Cf. T. M. Robinson, 'Demiurge and World-Soul in Plato's *Politicus*', in *A.J.Ph.* 88 (1967), 57-66, p. 63.

³⁶ To these testimonies one may add ps. Alexander, *In Met.* 717,39: ἀλλ' οἱ μὲν περὶ Πλάτωνα ἀρχὰς τὸ ἀγαθὸν καὶ τὸ κακὸν ἐτίθεντο, and Eudemus fr. 49 Wehrli (Plutarchus, *De animae procreatione in Timaeo Platonis* VII 1015d): Εὐδημος ἀγνοήσας κατεργασμένην τοῦ Πλάτωνος ὥς οὐ εὐ τὴν πολλάκις, ὑπ' αὐτοῦ μητέρα καὶ τιθήνην προσαγορευομένην, αἰτίαν κακῶν καὶ ἀρχὴν ἀποφαίνοντος.

³⁷ *Théorie des idées et des nombres*, 563-568; 574-6. Cf. also Bonitz, *Index* 754 a55-bb. – H. Cherniss, *Aristotle's Criticism of Plato and the Academy*, 95, n. 62, is of the same opinion. According to Cherniss Theophrastus would have under-

of Plato's theory of the origin of disorder: Taylor held that the theory of matter as the source of evil is un-Platonic, but recently most students of Plato agree that the texts which appear to express this view cannot be discarded so easily³⁸. Following a line of interpretation which had already been taken in the nineteenth century³⁹, G. Vlastos points out that Plato cannot have made soul the cause of disorderly motion; with A. Rivaud he is of the opinion that the terms 'precosmic chaos' have to be taken literally⁴⁰. H. Cherniss, on the other hand, maintains that Plato believed that some souls cause evil. Yet, rather than resort to an evil world-soul as an adversary of the intelligent world-soul of the *Timaeus*, he suggests that a body moved by soul becomes, when moving another body, the source of random motions⁴¹. According to M. Meldrum Plato's theory of the origin of all motions is not entirely consistent: while in the *Timaeus* matter is depicted as the cause of disorder in the *Laws* evil soul is said to bring about disorderly motion⁴². A. J. Festugière argues that in the *Timaeus* the doctrine of matter as a source of resistance to order and as a seat of evil is set forth⁴³. According to Festugière this doctrine is also intimated in *Theaet.* 176a-b; 176e and *Polit.* 268d-e; *Laws* X does not deal with cosmic disorder⁴⁴. In a review of Festugière's book Cherniss reaffirms his view that intelligent soul by acting upon bodies causes disorderly motion as a consequence incidental to its purpose. Festugière, in his turn, rejects this interpretation as not rendering adequately the doctrine contained in the *Timaeus*⁴⁵. — J. Skemp believes

stood this aspect of Plato's doctrine in a way different from Aristotle: evil would be an inevitable consequence of the contrariety which exists in the world.

³⁸ Cf. H. B. Hoffleit, 'An un-Platonic Theory of Evil in Plato', *American Journal of Philology*, 1937, 45-54.

■ Cf. H. Herter, 'Bewegung der Materie bei Platon', *Rhein. Museum* 100 (1957), 327-347.

⁴⁰ 'The Disorderly Motion in the *Timaeus*', *Class. Quart.* 33 (1939), 71-83; A. Rivaud, *Le problème du devenir et la notion de la matière dans la philosophie grecque*, Paris 1906.

⁴¹ *ACrPIA*, pp. 447f. *ACrPIA*, pp. 447f. Cf. also his "The Sources of Evil according to Plato", in *Proceedings of the American Philosophical Society* XCVIII (1954), pp. 24-30.

⁴² *Journal of Hellenic Studies* 70 (1950), 65-74. When Plato affirms that soul is the cause of disorder, he does not necessarily deny that material factors are also causes of evil. See H. Herter, *op. cit.*, 346.

⁴³ *La Révélation d'Hermès Trismégiste II. Le Dieu cosmique*, pp. 117ff.

⁴⁴ *Op. cit.*, 129-130.

⁴⁵ In *Gnomon* 1950, p. 206. — Festugière's reply may be found in his *La Révélation d'Hermès Trismégiste III. Les doctrines de l'âme*, Paris 1953, p. XIII.

that in order to give a true account of all process happening in the world in which we live, Plato assumed that there is a factor prior to the world-soul⁴⁶. What is quite new in Skemp's interpretation is that in view of term *πειθεῖν* which is used in this connection he thinks that it is better to consider this factor a psychic entity, notwithstanding the fact that Plato calls the *σωματοειδές* the cause of disorder. The advantage of this interpretation is that one can still maintain that, in a sense, soul is the cause of all movements.

It is perhaps difficult to give a definite answer to the question of Plato's doctrine of the cause of disorder. But as far as the *Timaeus* is concerned it seems best to assume that Plato considers matter a principle of disorderly motion; this is also what Aristotle intimates in this chapter^{46a}.

ἔξω τοῦ ἐνός. It is better to translate 'outside the One' than 'except the One' because Aristotle is speaking here of the Platonic doctrine of being, according to which the One is prior and transcendent to all other principles and things. — In 1000a28 a similar formula (ἔξω τοῦ ἐνός) is used with regard to Empedocles' doctrine of Love and Strife: Strife acts and produces 'outside' Love.

a36. Other philosophers did not make the good and the evil principles, that is, they assigned a much lower place to them in the hierarchy of being. Aristotle probably refers to Speusippus and to those who thought like him. For Speusippus ethical values originate at a much lower level of reality. Cf. the commentary on 1072b30-34.

καίτοι ἐν ἅπασιν μάλιστα τὸ ἀγαθὸν ἀρχή. Aristotle objects against this view that the good is a primary principle, viz. in as far as it is the final cause of all activity. Cf. *E.N.* 1094a3; 1097a21-22; *Met.* 983a31.

a38. Other philosophers, again, rightly hold that the good is a principle, but they fail to say in which way it is so. A similar criticism is advanced in *Met.* 988b6-11: "That for whose sake actions and changes and movements take place, they assert to be a cause in a way, but not in this way, i.e., not in the way in which it is its nature to be a cause. For those who speak of reason or friendship class these causes as goods; they do not speak, however, as if anything that exists either existed or came into being for the sake of these, but as if movements started from these"⁴⁷.

Cherniss rejects Aristotle's criticism as baseless and unjustified⁴⁸.

⁴⁶ See the *Addenda* to the second edition of his *The Theory of Motion in Plato's later Dialogues*, Amsterdam 1967, 153-156.

^{46a} For a similar conclusion see also F.-P. Hager, *Die Vernunft und das Problem des Bösen im Rahmen der platonischen Ethik und Metaphysik*, Bern 1970, p. 7.

⁴⁷ Oxford Translation.

⁴⁸ *Op. cit.*, 382, n. 301.

yet the available evidence concerning Plato's (later) theory of principles appears to confirm rather than refute Aristotle's observations. The latter is aware of the novel character of his own deduction that the supreme good can only move as being loved, and felt that this doctrine did solve certain difficulties to which the Academic theories of the Good were subject.

1075b1-7. In this passus Aristotle points out some short-comings of Empedocles' philosophy: Love and Strife are at once material and efficient causes. Even if both types of causality may occur together in the same thing, they should still be distinguished the one from the other. The reason why they must also be material is that they are part of the mixture. This criticism is borne out by fr. 17, 18-20, where Strife and Love are placed amidst the elements, and Love is said to be 'equal in length and breadth'. Yet Empedocles himself who failed to see the implications of this, would probably not have admitted that Love and Strife are elements⁴⁹.

Elsewhere in the *Corpus* Aristotle speaks of soul as being at once a formal, an efficient and a final cause, but it is so according to different aspects or parts⁵⁰. Another example of a thing being at the same time active and passive is the sense organ which is acted upon and at the same time active itself: yet the formal *ratio*, i.e., the notion of sensation and receiving the object are not the same, *ἔστι μὲν οὖν ταυτόν, τὸ δ' εἶναι ἕτερον*⁵¹.

b5. Bonitz' correction of *ὡς ὕλη καὶ* into *καὶ ὡς ὕλη* is almost certainly right.

A second objection raised against Empedocles is that in his theory Hatred becomes eternal. It is not at first sight obvious why Aristotle considers this contradictory. Three explanations have been advanced: (a) Ps. Alexander argues that during the rule of Love Strife should disappear (718,18-19). As Ross observes, this explanation does not take into account the following words, according to which Hatred is the nature of evil. (b) Bonitz thinks that the reason of Aristotle's criticism is that if we assume Hatred to be eternal, it would infect everything. Now, this is not case (cf. 1075a34-36). (c) Ross suggests that what is

⁴⁹ Bonitz, 522, and Cherniss, *Aristotle's Criticism of Presocratic Philosophy*, p. 172, n. 123.

⁵⁰ *P.A.* 641a18-b10; *De anima* 415b9; *Phys.* 198a24ff.

⁵¹ *De anima* 424a25. Cf. 425b26 and 426a15 – Bonitz, 521-522, explains τὸ δ' εἶναι in a similar way: "his verbis notionis significari diversitatem". Cf. *Index*, 221a34-61.

meant is that eternal Strife is impossible because it is an evil: for Aristotle evil is not something which exists by itself, but a defect of existing things⁵², and hence it cannot always be.

Ross' explanation is probably the best. I would like to add to this that Strife means interaction, coming-into-being and passing-away, and so it is not something ἀφθαρτον, i.e., something beyond the realm of process and contraries⁵³.

b9-11. Aristotle now turns to Anaxagoras' theory of principles: Anaxagoras' Noûs is a moving cause in as far as it caused the original motion of the whirl, but it is not a final cause, yet, it moves for some purpose which is other than itself, viz. in view of a certain order in the world. If so, this purpose will be the absolute origin of movement, and noûs is no longer the first being. – It is only in Aristotle's own system that this duality is avoided.

Cherniss read these lines too hastily and thought that Aristotle is reproaching Anaxagoras for having identified final and efficient causality in the Noûs⁵⁴. – The text asserts the opposite: what for us is the good as a first principle is for Anaxagoras Noûs, which is bringing things in movement. – ὥστε ἕτερον means: so that something other (than Noûs will be the ultimate cause of movement), except when one admits our explanation.

ἡ γὰρ λατρικὴ ἐστὶ πῶς ἡ ὑγίεια. It seems best to take this line to refer only to πλὴν ὡς ἡμεῖς λέγομεν, for it speaks of a certain identification between the art of medicine and the form of health: health is the idea from which a doctor's art originates and which makes him undertake the treatment of his patients. Now, it is precisely the goodness of the first being from which all movements in the cosmos originate, and in which all cosmic order is precontained.

b10. Aristotle adds another objection to Anaxagoras' system: Anaxagoras failed to posit a principle contrary to noûs. Bonitz, 522, thinks that it is surprising that Aristotle who himself admits a First Being above the world of contraries (1075b21: οὐ γὰρ ἐστὶν ἐναντίον τῷ πρώτῳ οὐδέν), here criticizes Anaxagoras for not having posited a

⁵² Cf. *Met.* 1051a17-21 (οὐκ ἐστὶ τὸ κακὸν παρὰ τὰ πράγματα).

⁵³ As we already had the opportunity to notice, Aristotle's arguments often depart from the image of a spatially structured universe. – Averroes, without saying whether he is quoting Alexander or giving his own comment, writes "violentum autem non est mansurum" (*op.cit.*, 339 L).

⁵⁴ *Aristotle's Criticism of Presocratic Philosophy*, 235. – In *Met.* 988b6-16 Aristotle advances a similar criticism.

principle contrary to the Noûs. Cherniss speaks of a highly ambiguous objection, in view of the fact that Aristotle elsewhere sees a certain contrariety between Noûs and matter⁵⁵. – The difficulty may perhaps be solved when we keep in mind that the Noûs is working as an efficient cause in the sphere of contraries. But the process observed is the result of contrary forces and can never fully be explained by only one type of efficient causality⁵⁶. – Yet even so the criticism is strange and the Greek harsh. It is, therefore, best to assume that the text is corrupt and that the original did not have the negation μή, but a term like ὅλην. Anaxagoras is, indeed, in a sense a dualist, opposing as he does Mind and Matter. Mind itself is corporeal, and matter differs from it in that it is not pure but a mixture of all things⁵⁷. Aristotle would reproach Anaxagoras with creating an opposition of contrariety between the supreme Good (the Noûs) and the other things.

1075b11. οὐ χρῶνται probably means: they did not use the contraries in such a way as to make a logically consistent theory. – The contraries had a fundamental place in Presocratic philosophy⁵⁸: hence when Aristotle says that these philosophers did not use them properly, he cannot mean that the contraries were not given an active role by them⁵⁹. The probable sense of this remark is that the Presocratics did not consider the contraries as contrary qualities tied to a substratum, but as powers identified with the substratum. From this it follows that in their view change is impossible⁶⁰.

ἐὰν μὴ συθμίση τις κατὰ. The verb signifies a revision and reformulation of a theory. Cf. *Met.* 986b5-6 and 989a30-30.

b13. A further defect of the theories of principles mentioned above is that they do not succeed in giving a satisfactory explanation of the distinction between corruptible and incorruptible things, since both

⁵⁵ *Ibid.*, 235, no. 83. – In *Met.* 988a14-17 and 989b16-19 Aristotle does indeed say that Anaxagoras admitted a principle contrary to the Noûs.

⁵⁶ Ross, II 403, suggests that Aristotle may be reproaching Anaxagoras with not describing more explicitly chaos as the opposite of the Noûs (cf. 989b19).

⁵⁷ Cf. Diels A 41 (Theophrastus, *Phys. Op.* fr. 4); A 1,5 καὶ πρῶτος τῇ ὅλῃ νοῦν ἐπέστησεν); A 2; A 42 (p. 16,1); A 46 (p. 19,3-6).

⁵⁸ Cf. H. Fränkel, *Dichtung und Philosophie des frühen Griechentums*, New York 1951, 341 ff.

⁵⁹ Cherniss, *op.cit.*, 363, seems to think that this is the sense of the text.

⁶⁰ Aristotle sets forth his own view of contraries in the *De generatione et corruptione*. – When we apply the criticism to Anaxagoras and Empedocles (cf. *Met.* 985a17-23) (disregarding the πάντες) the clause could mean that they did not assign a significant role to contrary material qualities.

realms of being were thought to depend on the same principles; some thinkers even failed to make a distinction between corruptible and incorruptible things.

In *Met.* 1000a5-1001a3 Aristotle brings up the problem of whether the principles of perishable and imperishable things are the same or not, and deals at length with the theory of Empedocles, who held that the principles (the elements) are imperishable while everything else made out of them is perishable (1000b17-20). Aristotle's own doctrine is complex: the ultimate final principle is the same for perishable and imperishable things, but formal principles are different for each realm; perishable things have a special type of matter in common.

b14. ἐτι οἱ μὲν κατὰ. In *Met.* 1072a19 the same view is mentioned. Probably Hesiod is meant. See the commentary above. Aristotle rejects unqualified becoming from not-being (ἀπλῶς ἐκ μὴ ὄντος) because such becoming would contradict the most fundamental laws of ontology⁶¹.

b15. In *Phys.* 191a24-33 Aristotle describes how his predecessors were facing a problem which they could not solve: what becomes must come into being either from what is, or from what is not; to become from what is, is meaningless, since it is already; the second part of the alternative being impossible Parmenides and his disciples were led to deny becoming and plurality.

1075b16-1076a4. In the previous section of the chapter Aristotle showed that the theories of principles of his predecessors, in particular, those of the Presocratic philosophers, are inadequate to explain process in the world; he now continues his discussion of principles by dealing with the doctrine of the Platonists. The passus is difficult, and the text is here and there corrupt. – Some commentators consider Aristotle's allegation that Plato's principles do not explain becoming and passing away, as wrong but even these critics of Aristotle will have to concede that the opposition of the One and the Great and Small is hardly a sufficient ground for the process and movements observed in this world⁶².

b16. The question of which is the cause of continuous generation is called a perplexing problem in *G.C.* 318a13. Aristotle's own view is that, for ontological reasons, there must be a continuous circular motion prior to the other movements in the world⁶³. This eternal

⁶¹ *Phys.* 265a22-24.

⁶² See K. Gaiser, *Ungeschriebene Lehre*, 199-200.

⁶³ *Phys.* VIII, 8,9, esp. 265a22-24; *De caelo* 284a2-6.

circular movement is the cause of the fact that coming-into-being goes on continuously⁶⁴. It is Aristotle's conviction that none of the other philosophers succeeded in giving a scientific explanation of the observed phenomena of movement.

b17. καὶ τοῖς δύο ἀρχὰς ποιοῦσιν κτλ. Aristotle's predecessors are meant, who made everything come to be out of contraries. Cf. 1075 a28. These philosophers should have admitted a more supreme principle. – κυριώτερος indicates high ontological rank, being primary, etc. Aristotle has undoubtedly in mind the supreme Good, or supreme Thinking, which exist apart from and above the 'powers' acknowledged by the Presocratic philosophers.

b18. καὶ τοῖς τὰ εἶδη ὅτι ἄλλη ἀρχὴ κυριωτέρα. – While the sense of this line is clear, its construction is difficult. Bonitz rightly observed that the ὅτι should be ἔτι or ἔσται. Ross accepts this emendation, but Jaeger retains ὅτι because he believes that a similar construction with omission of the main verb occurs in 1069b35 and 1070a4. I do not think, however, that this is correct. It is better to follow Bonitz, or, rather, to consider with Christ ὅτι ἄλλη ἀρχὴ κυριωτέρα a gloss, added under the influence of the previous sentence. The excision finds support in ps. Alexander's commentary, who seems to have read a full stop after καὶ τοῖς τὰ εἶδη, for in his commentary he places the words after καὶ τοῖς δύο ἀρχὰς ποιοῦσιν so that exactly the same criticism (ἄλλην ἀνάγκη...) applies to both groups of philosophers (719,11-12)⁶⁵.

b19. διὰ τί γὰρ μετέσχει ἢ μετέχει. Aristotle's basic criticism of the theory of ideas is that it fails to explain how the forms existing in separation from the material world, communicate themselves to concrete things. For instance, in *Met.* 991a22, in the first of a series of arguments against the theory of ideas, Aristotle maintains that Plato had not been able to say 'which is the thing that works, looking to the Ideas'⁶⁶. Likewise in *Met.* 992a24ff. his criticism is directed against

the fact that those who hold the theory of ideas – contrary to what other philosophers had done – neglected the question of efficient causality, nor did they say which is the final cause in view of which all things are operative.

Grammatically the subject of μετέχει is τὰ καθ' ἑκάστα. Aristotle first uses the imperfect tense of the verb, and then corrects himself by using the present tense. From the point of view of being participation is the active presence of a form, and this is best expressed by the present tense⁶⁷. From the point of view of becoming one may consider the first communication of a form the origin of a thing (or of movement) and express this by using the imperfect tense of μετέχειν⁶⁸.

b20-24. In this extremely difficult passus Aristotle argues that it is only his own theory which allows to dispense with a second principle contrary to supreme Wisdom.

Ps. Alexander, 719,22-26, explains this passus as follows: Aristotle has shown above that knowledge and the knowable are the same. It follows that if there is something opposed to the Primary Being (the supreme knowable), there is also something opposed to philosophy; which is ἀτοπον. – The weakness of this explanation is that it does not make plain why there cannot be anything opposed to wisdom. Moreover, the identity of knowledge and the knowable does not seem to play a role in this context. A further inconvenience is that, if we follow ps. Alexander, the argument would have to show that the inference is impossible (i.e., that nothing can be opposed to knowledge). However, Aristotle says that there is nothing opposed to the First Principle.

Ross, 404, takes the passus to be an allusion to Plato's recognition (*Rep.* 477-478) of ignorance as a state of mind opposed to knowledge and related to not-being as knowledge is to being. He translates as follows: "other thinkers, since they recognize only two, and these contrary principles, must recognize an ignorance related to one of them (not-being or matter) as knowledge is to the other (being or form). But *we* need not. For we make the highest knowledge refer to a first principle which stands above the contraries and itself has no contrary; for contraries contain matter, and things containing matter exist only potentially. The ignorance which is opposed to any knowledge leads to an object opposed to the object of knowledge; but our first principle

⁶⁷ In most cases Plato uses the present tense. See also *E.E.* 1217b5: "The Good itself is characterised by being the first of goods and by being, *by its presence* to the other good things, the cause of being good".

⁶⁸ See *Tim.* 69b.

⁶⁴ G.C. 336a17-18: ἡ γὰρ φορὰ ποιήσει τὴν γένεσιν ἐνδελεχῶς διὰ τὸ προσάγειν καὶ ἀπάγειν τὸ γεννητικόν.

⁶⁵ Themistius mentions both groups and gives only once the same criticism: nam ad formas quoque aliud praestantius principium adhiberi oportet (38,12).

⁶⁶ Aristotle did not consider recourse to a Demiurge (*Tim.* 28c; 29a) a scientific explanation, because the theory of the Demiurge as an active cause does not apply to becoming in the world, as it is now. Although Plato sometimes comes close to the formulation of a primary cause of movement (*Phil.* 23d), he did not give a clear solution to the problem of the origin of movement, generation and corruption.

has no opposite, and therefore for us the highest knowledge has no opposite knowledge." – Against this interpretation of the text one may object: why do other thinkers have to acknowledge an ignorance related to one of the contraries? It is the constant doctrine of Aristotle that the same knowledge knows both contraries. – One might also doubt the correctness of this explanation by reason of the fact that in *Tim.* 52b Space (the second principle) is said to be apprehended by some sort of bastard reasoning (λογισμῷ τινι νόθῳ): space does not belong to the world of forms, yet it is everlasting and can only be apprehended by thinking, and so it "partakes of the intelligible in a very puzzling way"⁶⁹. Would it not be much simpler to assume that there is absence of knowledge, because of a lack of knowability? – A further difficulty is that the last line of Ross' translation is not in the Greek text.

Cherniss understands the text as follows: "The ignorance which is contrary to knowledge implies an object contrary to the object of that knowledge; but since there is no contrary to Aristotle's first principle there can be no ignorance contrary to the knowledge of it. So far as the Platonists are concerned, the implication is that they must admit their 'matter' to be the object of an ignorance which is the contrary of the highest wisdom, because they conceive the object of that wisdom to be itself contrary to 'matter'"⁷⁰.

Cherniss takes τῇ σοφίᾳ καὶ τῇ τιμιωτάτῃ ἐπιστήμῃ to mean theology. His explanation becomes improbable when he writes that, according to Aristotle, the Platonists were forced to admit an ignorance contrary to the highest wisdom, which would have matter as its object.

In view of the unsatisfactory results of these explanations I would suggest to take τῇ σοφίᾳ καὶ τῇ τιμιωτάτῃ ἐπιστήμῃ as the knowledge which God possesses. In Greek philosophical writings the term σοφία is frequently used in the sense of insight and knowledge superior to what man can know by his own forces; it furthermore signifies the principle of order in the cosmos. As evidence I should like to quote the famous fragment of Heraclides Ponticus concerning Pythagoras: φιλοσοφίαν δὲ πρῶτος ὠνόμασε Πυθαγόρας καὶ ἑαυτὸν φιλόσοφον, ἐν Σικυῶνι διαλεγόμενος... μηδὲνα γὰρ εἶναι σοφὸν ἄλλ' ἢ θεόν⁷¹. There are very good reasons which plead for the authenticity of the text⁷², but

⁶⁹ *Tim.* 51b: Cornford, *Cosmology*, 193.

⁷⁰ H. Cherniss, *Aristotle's Criticism of Plato and the Academy*, 102-104.

⁷¹ Fr. 87 Wehrli.

⁷² See C. J. de Vogel, *Pythagoras and Early Pythagoreanism*, Assen 1966, 96-102.

even if one would not be convinced by them, it cannot be doubted that for Pythagoras σοφία is a knowledge which surpasses man's natural powers⁷³. For Pindar σοφία is a knowledge which is imparted by the gods, and a normative science⁷⁴. For Heraclitus the being of God consists in the wisdom which brings together and harmonizes, whatever is isolated, opposed or without value⁷⁵.

Plato could base himself on an age-old tradition when he wrote in *Phaedrus* 278d: τὸ σοφὸν θεῶ μόνῳ πρέπειν.

τιμιωτάτων indicates that which is of the highest value. Cf. *E.E.* 1216b20. Hence τιμιωτάτῃ ἐπιστήμῃ is the knowledge and wisdom of the first principle⁷⁶. This is illustrated by a text of *Met.* 983a5-10: ἡ γὰρ θειοτάτη καὶ τιμιωτάτη τοιαύτη δὲ διχῶς ἂν εἴη μόνῃ· ἦν τε γὰρ μάλιστ' ἂν θεὸς ἔχοι, θεία τῶν ἐπιστημῶν ἐστὶ, καὶ τις τῶν θείων εἴη. μόνῃ δ' αὐτῇ τούτων ἀμφοτέρων τετύχηκεν. ὃ τε γὰρ θεὸς δοκεῖ τῶν αἰτίων πᾶσιν εἶναι καὶ ἀρχὴ τις, καὶ τὴν τοιαύτην ἢ μόνος ἢ μάλιστ' ἂν ἔχοι θεός.

The terms εἶναι τι ἐναντίον signify that there is something contrary to this knowledge of God, that is, there is something which does not let itself be ruled, measured, determined by it. Aristotle argues that this is impossible. As Aristotle intends to show in *A* 10 the First Principle as a final cause rules everything, but contrary to Aristotle Plato admits ἀνάγκη as a factor opposed to Νοῦς and not completely controlled by it⁷⁷. This Necessity is not an evil world-soul but a passive resistance to Mind⁷⁸. Plato speaks of a certain resistance to the wisdom and order to be established and realised in the cosmos. – This theory

⁷³ Cf. B. Gladigow, *Sophia und Kosmos. Untersuchungen zur Frühgeschichte von σοφός und σοφία*, Hildesheim 1965, 25.

⁷⁴ *Ibid.*, 40-41.

⁷⁵ *Ibid.*, 123. Cf. Heraclitus, fr. 40 and 108.

⁷⁶ For the combination of σοφία and ἐπιστήμη see *E.N.* 1141a18-19: ὥστ' εἴη ἂν ἡ σοφία νοῦς καὶ ἐπιστήμη, ὥστε κεφαλὴν ἔχουσα ἐπιστήμη τῶν τιμιωτάτων.

⁷⁷ Cf. Cornford, *Plato's Cosmology*, 209. See *Tim.* 47eff. Cornford does maintain however that soul must be the cause of all movement, and so he suggests that the world-soul has an element of unreason and is not perfectly controlled by divine reason within it (*op.cit.*, 57). Even if there is such an element in the world-soul, there is nothing in the *Timaeus* to suggest that it causes irrational movements. Upon the evidence of the *Timaeus* it is best to assume that evil is caused by matter in the sense of χώρα. See M. Meldrum in *J.H.St.* 69 (1949), p. 74.

⁷⁸ In the Myth of *Rep.* 616b-617c ἀνάγκη has a different sense. See H. Schrekenberg, *ANANKE. Untersuchungen zur Geschichte des Wortsgebrauchs*, München 1964, 81-97.

seems to be envisaged by Aristotle's argument in which he asserts that there is nothing which opposes the principle of cosmic order. Aristotle himself admits that not everywhere in the cosmos nor always does teleology reach its highest fulfilment, but this is not because of the antagonism of Necessity, but because the potentiality of matter has not been fully actualised. Aristotle claims that other thinkers who do not know his *ὑλη* doctrine, must necessarily resort to such a contrary factor. Only if one admits a substratum, may one place contrariety in this substratum without having to oppose it to the First Principle.

b22. πάντα γὰρ τὰ ἐναντία ὑλὴν ἔχει. If this explanation of the passus is correct, Aristotle here asserts that contrary things (processes) in the universe are not the expression of antagonism to Noûs, but of a contrariety contained in matter.

b23. The manuscript reading of this line is: ἡ δὲ ἐναντία ἄγνοια εἰς τὸ ἐναντίον, τῷ δὲ πρώτῳ ἐναντίον οὐδέν. The meaning one reads in this line will depend on the conception one has of the entire passus. ἡ δὲ ἐναντία ἄγνοια seems to be ignorance, contrary to the highest knowledge, mentioned in b20-21. In Plato's *Republic* 477-478 ignorance is described as opposed to knowledge and related to not-being as knowledge to being. Hence Ross, following ps. Alexander, understands the clause as denoting such an ignorance. Yet this explanation has some inconveniences: in his later theory Plato made his supreme science deal with both the One and the Great and the Small; in view of this there does not seem to be any place left for a special science of not-being. Moreover Ross runs into grammatical difficulties. He has to make ἐναντία an attribute and ἄγνοια the subject of the phrase, and then asks whether one should conjecture ἐστὶν or ἐσται ἐναντίου. — Εἰς, Ross writes, must be understood as 'leading (the mind)' to 'something'⁷⁹. This interpretation of εἰς is excellent⁸⁰, yet one wonders what it is to which ἄγνοια would lead us. Is ἄγνοια not mere not-knowing?

Bonitz, 524, as always, is honest and avows that he does not see how to interpret or to correct the clause. A comparison with *Met.* 1051b30 might enable us to see some meaning in the line, yet it does not offer a real solution. Bonitz likewise rejects Schwegler's emendation (IV 293): ἡ δὲ ἐναντία ἄγνοια, εἰς τὸ ἐναντίον (sc. πίπτει)⁸¹.

⁷⁹ Ross draws attention to *E.E.* 1227a33 (ἐπεὶ καὶ ἡ ἀπάτη οὐκ εἰς τὰ τυχόντα γίνεται, ἀλλ' εἰς τὰ ἐναντία ὅσοις ἐστὶν ἐναντία), which confirms the possibility of the construction.

⁸⁰ Cf. Bonitz, *Index* 222b56 - 223a3.

⁸¹ Jaeger suspects a corruption of the text.

In view of these difficulties, I suggest to place a comma after ἐναντία and to read ἄνοια for ἄγνοια. Plato describes necessity which is antagonistic to Noûs as consisting in the absence of noûs, i.e., in a lack of rationality⁸². In *Laws* 897a-b he states this opposition by means of the terms νοῦς and ἄνοια⁸³. For Plato this ἄνοια is an active factor, while ἄγνοια only denotes absence of knowledge⁸⁴.

The translation of the disputed line becomes: 'the contrary (cause)⁸⁵ is absence of rational purpose leading to what is contrary to the first principle, but nothing is contrary to the first being'.

One may also connect ἄνοια with ἐναντία and translate: contrary ἄνοια leads to a contrary state (disorder), or opposes (the first principle).

Because ἄνοια is seldom in the *Corpus*⁸⁶, a copyist thinking that there must be question of what is contrary to ἐπιστήμη wrote ἄγνοια⁸⁷.

b24 - 1076a4. The last part of the chapter is one unit in which Aristotle argues that the first principle is unique: if there is to be order in the universe, coming into being and the movements of the celestial bodies, there must be a principle besides the sensible things. By means of five arguments Aristotle shows that the principle of order cannot be the ideas or numbers.

b24. Jaeger's correction ἐτι εἰ μὴ (for εἴ τε μὴ) is probable⁸⁸.

παρὰ τὰ αἰσθητά. Cf. *Met.* B4 and K2.

ἄλλα. The plural evokes the Platonic principles (b27) and those texts in the *Corpus* where Aristotle mentions eternal, unmoved beings.

οὐκ ἔσται ἀρχή, there will be no principle in the strict sense of the term (for all sensible things, even the celestial bodies, have some share in potentiality)⁸⁹. In Aristotle's view principles cannot be composed either of one another, or of anything else (*Phys.* 188a27), and cannot be an attribute of something else (1089a33).

καὶ τάξις. Cf. *Met.* 1060a26: πῶς γὰρ ἔσται τάξις μὴ τινος ὄντος ἀδίδου καὶ χωριστοῦ καὶ μένοντος. In *Phys.* 196a24ff. Aristotle argues against

⁸² *Tim.* 46d-e.

⁸³ Ψυχὴ νοῦν προσλαβοῦσα and ψυχὴ ἀνοία συγγενομένη.

⁸⁴ Cf. Plutarchus, *De anima procreat.* 1015d (paraphrasing the *Timaeus*): ὁ θεὸς οὐκ ἀνέστησε τὴν ὑλὴν ἀργοῦσαν, ἀλλ' ἔστησεν ὑπὸ τῆς ἀνοήτου παραττομένην αἰτίας. See also J. Kerschensteiner, *Platon und der Orient*, 76, 82, 99.

⁸⁵ I supplement αἰτία after *Tim.* 48a.

⁸⁶ It is used in *H.A.* 610b22 and *Protr.* B 4 Düring.

⁸⁷ Ἀγνοια is opposed to ἐπιστήμη in *Anal.* 66b26; 77b18.

⁸⁸ The use of the future tense in what properly is an irrealis is also found in *De anima* 455a22.

⁸⁹ See *Met.* N 2.

those who assume the ordered world to be the result of chance and spontaneous process.

καὶ γένεσις. Cf. *Met.* 999b5-8: "But if there is nothing eternal, neither can there be a process of coming to be; for there must be something that comes to be, i.e., from which something comes to be, and the ultimate term in this series cannot have come to be, since the series has a limit and since nothing can come to be out of that which is not" (Oxford Translation). In the *De gen. et corr.* Aristotle sets forth that all coming into being depends on the movement of the sun in the ecliptical plane. Now this movement of the sun is caused by a First Mover (*Met.* 1072a10-18).

καὶ τὰ οὐράνια. The meaning of οὐράνιος is 'what is in the heaven', 'what belongs to heaven'. As Ross observes, in this context the term does not mean the celestial bodies, but the movements observed in the heaven⁹⁰.

b26. ἀλλ' αἰ τῆς ἀρχῆς ἀρχή. There will always be another principle, prior to the one we posited as a principle, so that the principle is only one in a series. However, an infinite series of causes in which each successive cause depends on the preceding one for the very exercise of its causality, is impossible.

τοῖς θεολόγοις, i.e., those authors who gave a mythological account of the origin of and constitution of the cosmos, like Hesiod. See the commentary on 1071b27. Ps. Alexander, 720,11, refers to theogonies in which each time another god is generated.

The natural philosophers (φυσικοί, φυσιολόγοι) are those Presocratic philosophers who attempted to explain the phenomena by natural causes, in particular the Ionians, Empedocles, Anaxagoras and the atomists. These thinkers resorted to principles homogeneous to physical reality. Philosophers who attempted to give a metaphysical explanation are not called φυσικοί⁹¹, as for instance the Pythagoreans and Eleatics⁹².

b27. Ideas and subsistent numbers are not causes of anything. Or, even if one would not admit this, so much at least is sure that ideas and numbers are not causes of movement.

Aristotle uses αἰτία here instead of ἀρχή. Although αἰτίον (αἰτία) and

ἀρχή are frequently used synonymously, αἰτίον is better suited than ἀρχή to denote the cause of movement.

εἰ δὲ μή. For a similar use see *Meteor.* 344a3. οὔτι (ἀλλ' οὔτι γε) in the sense of 'at least not' occurs also elsewhere in the *Corpus*, e.g., in *Phys.* 258b22 and *De caelo* 271a18.

b28. A further criticism of the Academic theory of principles is that the numbers (and the indivisible line) cannot produce (as formal and (or) efficient causes) extended magnitude.

There is no text which explicitly says that Plato himself derived spatial extension from numbers, yet a careful analysis and comparison of several statements in the *Metaphysics* make it likely that Plato made numbers the principles of "the things after the numbers"⁹³. We are not instructed as to how this production took place. In *Met.* 1083b13-19, Aristotle discussing as it would seem a theory of Speusippus and some Pythagoreans, argues that numerical units have no magnitude and hence cannot be the principles of spatially extended things. In *De gen. et corr.* 316a15ff. the question is examined whether 'magnitude' is divisible throughout; on this occasion Aristotle shows that a spatially extended magnitude cannot be constituted by in-extended units. In *Met.* 1001b17-19, a passus directed against Zeno, he reaffirms that indivisibles cannot constitute a line, plane or body.

When Aristotle mentions the causality ascribed by some Pythagoreans and Platonists to numbers, he usually seems to be envisaging formal causality. However certain texts give the impression that these thinkers also attributed a type of efficient causality to these numbers which would be the αἰτία of the movements of the celestial bodies and of the periods in the lives of animals⁹⁴.

b30. ἀλλὰ μὲν introduce the discussion of another member of the dilemma: can the origin of movement be explained by means of the activity of one of a pair of contraries? Aristotle rejects this solution.

ὅπερ καὶ ποιητικὸν καὶ κινητικόν. In the *Corpus* ὅπερ is frequently used to signify that which belongs essentially to a certain thing

⁹³ Cf. *Met.* 1090b20-4; 1090b37 - 1091a1; *De anima* 404b16-27, and Ross' judicious discussion in his *Plato's Theory of Ideas*, 206-212. On the *De anima* passus see K. Gaiser, *Idee und Zahl*, *Abh. Heidelb. Ak. d. W. Ph. Hist. Kl.*, 1968, 2,49ff.

⁹⁴ This may be inferred from *Met.* 1093a1-13. The view of Xenocrates, who made soul a self-moving number, is perhaps also envisaged here. Cf. *De anima* 408b30 - 409a30.

⁹⁰ Ross refers for this use of the term to Xenophon, *Mem.* 1,1,11 and Plato, *Critias* 107d.

⁹¹ Cf. *Phys.* 184a17; 187a12.

⁹² Cf. *Met.* 1078b19-21; *Phys.* 186a20.

Met. 1030a4 (ὁ λευκὸς ἄνθρωπος οὐκ ἔστιν ὅπερ τόδε τι)⁹⁵, illustrates how ὅπερ stresses the formal aspect of the thing signified by the following term⁹⁶. Thus ὅπερ ποιητικόν denotes what is essentially active. – Aristotle does not deny that contraries may be active. On many occasions he states that contraries are active the one in respect of the other, as for instance in *G.C.* 324a10ff. But here he means that contraries cannot be the ultimate cause of movement, because these qualities or powers sometimes cease to exist.

ποιητικόν καὶ κινητικόν. In *G.C.* 323a15ff. the distinction between both terms is explained⁹⁷: that which moves, acts in a sense (ποιεῖν τι), and that which acts moves. There is nevertheless a difference: not every mover acts, because, in order to act upon some other body, a patient which undergoes the action and is changed in respect of an affection, is necessary. From this it follows that 'to move' has a wider sense than 'to act'⁹⁸.

In causing movement the First Mover remains unmoved itself. In a similar way among things which act, the first agent is not affected itself⁹⁹. Aristotle gives this definition: ἔστι δὲ τὸ ποιητικόν αἴτιον ὡς ὁθεν ἢ ἀρχὴ τῆς κινήσεως. τὸ δ' οὐ ἔνεκα οὐ ποιητικόν (324b14-15).

The text states that contraries cannot be the first cause of movement. By contraries are meant contrary qualities like hot and cold, in as far as present in a subject.

ἐνδέχοιτο γὰρ ἂν μὴ εἶναι. The terms are usually understood as meaning that contraries are capable of not existing. The optative must apparently be explained by attraction of the modus under influence of an irrealis. But this suggests that the moving principle is the subject of ἐνδέχοιτο: contraries act upon each other, so that eventually one of them will not be for some time. Hence the first moving cause, if it were one of a pair of contraries, would for some time cease to exist¹⁰⁰.

⁹⁵ For more examples see Bonitz, *Index*, 533b36 - 534a9.

⁹⁶ In 1007a33 ὅπερ λευκόν signifies essentially white. Cf. *G.C.* 330a27: ὅπερ ὑγρόν, essentially moist.

⁹⁷ In these lines Aristotle does not use ποιητικόν but ποιοῦν. The former term stresses the power or capacity to act, the latter the action as such. Cf. *G.C.* 324b5.

⁹⁸ In *G.C.* 324b11ff. both terms are treated as synonyms.

⁹⁹ In 342a29 Aristotle explains that he means cases as that of a doctor who cures a patient by means of a medicine like wine. Likewise fire seems to heat a body without undergoing a change itself.

¹⁰⁰ Cf. *G.C.* 334b8-10; b21; 336a8 which describe how the contraries act upon each other and pass away.

Aristotle appears to be using laws drawn from the observation of contraries in the sublunar world, and applies these to those theories which make one of a pair of contraries a principle or movement.

Platonists would probably deny that the contrary principles are subject to the same laws as contrary powers in the sublunar world.

b32. ἀλλὰ μὴν ὕστερον γε τὸ ποιεῖν δυνάμεως. I take ἀλλὰ μὴν to introduce a further and stronger reason of why contraries cannot be the ultimate cause of movement. As a result of our commentary it has become evident that A 10 presupposes the more elaborate doctrine of movement of some other parts of the *Corpus*. Hence it is not unlikely that b32-33 may also be interpreted in the light of Aristotle's fully developed doctrine of potentiality and actuality. Actuality is prior to potency in being, in definition and, in a sense, in time. Yet this is quite compatible with the fact that in the individual being activity is preceded by the capacity to act¹⁰¹. In this passus Aristotle has in mind the activity in the sublunar world which increases, decreases and is interrupted at times. Contraries like hot and cold, dry and moist are also subject to change. If such contraries were ultimate principles of movement, eternal movement would be impossible. If there is no eternal movement, the celestial bodies are no longer eternal. However, this would contradict a fact of which Aristotle is profoundly convinced.

ἀλλ' ἔστιν does not mean that τὰ ὄντα, all things, are eternal, but that there are things which are, and that the universe in its entirety is also eternal.

b33. ἀναιρετέον ἄρα τούτων τι. The theories which make contraries ultimate causes must be revised as to certain of their assertions. – It could also be that the clause refers to Plato's theory of numbers as principles, for in the next line Aristotle mentions numbers again.

τοῦτο δ' εἰρηται πῶς. Perhaps 1071b19-20 is meant. The clause could well be a gloss.

b34-37. These lines, as I understand them, assert that the Platonists cannot solve the problem of how subsistent things are one.

τίνοι οἱ ἀριθμοὶ ἓν. In the Platonic theory of principles the subsistent numbers are produced by the One and the Great and the Small. Aristotle wonders how these elements can become one subsistent reality. "Again, how number can consist of the one and plurality they

¹⁰¹ See *De anima* 430a20: potential knowledge, in a human individual, precedes actual knowledge. Cf. also 431a2; *Phys.* 251a15-16; *De caelo* 283a20.

make no attempt to explain; but, however they express themselves, the same objections arise as confront those who construct number out of the one and the indefinite dyad. For the one view generates number from the universally predicated plurality, and not from a particular plurality; and the other generates it from a particular, plurality, but the first; for 2 is said to be a 'first plurality'. Therefore, there is practically no difference but the same difficulties will follow, – is it intermixture or position or blending or generation?"¹⁰². A similar problem exists for things composed of a substratum and the participated idea. Is, for instance, the 'animal itself' present in the individual animal. If so, how does the individual become a unity?"¹⁰³.

ἡ ψυχὴ καὶ τὸ σῶμα. All through his life as a philosopher Aristotle was concerned with the question of how body and soul are united so as to become one substance. At first he adopted Plato's dualistic anthropology, but later worked out his hylemorphic doctrine of the body as potentiality and the soul as substantial form¹⁰⁴. In *Met.* H 6 Aristotle lays down that form and matter are of such a nature as to combine and to form one substance, under the influence of the moving cause¹⁰⁵.

καὶ ὅλως τὸ εἶδος καὶ τὸ πρᾶγμα. The terms indicate that Aristotle is not only concerned with the question of the unity of matter and form, but also with the problem of how the different formal elements of a thing (the so-called *gradus metaphysici*) form a unity.

b37 - 1076a4. The last lines of the chapter deal with a theory which considers mathematical numbers the highest level of being and assumes that each successive level of being has its own principles. The same theory is stated more *in extenso* in *Met.* 1090a7-16 and 1090b13-20. *Met.* 1028b21-24 also refers to such a view and adds that it was upheld by Speusippus. Its main points were as follows: Speusippus, aware of the difficulties of the theory of ideas, abandoned the Platonic forms but maintained that numbers are subsistent entities (καθ' αὐτὴν φύσιν οὖσαν); however, numbers do not have any causal influence upon other things. The other levels of being, spatial magnitude,

¹⁰² *Met.* 1085b4-12, Oxford Translation. In 1044a2ff. Aristotle likewise states that a number is more than a mere aggregate of elements.

¹⁰³ *Met.* 1085a25-27.

¹⁰⁴ See F. Nuyens, *L'évolution de la psychologie d'Aristote*, Louvain 1948. Cf. *De anima* 412b6-9.

¹⁰⁵ Concerning the causality of the moving cause see the account in the *De gen. et corr.* II 10,11.

soul, sensible things, exist each by itself¹⁰⁶. Each successive level is more perfect than the preceding one (προελθούσης τῆς τῶν ὄντων φύσεως, 1091a35), so that they may be said to be analogically similar the one to the other¹⁰⁷.

Aristotle calls this theory a poorly composed play (ἐπεισοδιώδης). He defines an incoherent play as a μῦθον ἐν ᾧ τὰ ἐπεισόδια μετ' ἄλληλα οὐτ' εἰδὸς οὐτ' ἀνάγκη εἶναι¹⁰⁸.

The question of whether there is an intimate connection between the principles of the sensible things was apparently a topic discussed in the Academy. Theophrastus also deals with it and assumes that there is a certain causal connection between νοητά and things in nature¹⁰⁹.

b38. οὐσία is used here in the sense of level of being.

1076a2. For a similar observation see *Met.* 1090a11-13.

a3. From the use of the term πολιτεύεσθαι Ross infers that in the text ἀρχή means 'rule' as well as 'originative source'. Aristotle, in writing this chapter, has in mind the supreme principle of order in the universe. Unity of purpose reigns and Aristotle considers this unity of purpose as that which binds together the different levels of being¹¹⁰.

To a certain extent Aristotle made the essences of things dependent on a first principle in as far as they belong to the hierarchy of things, yet their being does not directly depend on the first principle. Beings closer to the first principle are better, enclose greater formal perfection.

Aristotle quotes a line from the *Iliad*, II 204, to illustrate his theory of the unicity of the first principle¹¹¹. Other philosophers had stated a similar view. For instance Xenophanes, while denying that one god could lord it over another (for this would mean that deity is not self-sufficient), intimated that there is only one principle of order, in the universe¹¹².

¹⁰⁶ On his theory see *Met.* 1028b21-24 (fr. 33a L); 1090b16-19 (fr. 50 L); Theophrastus, *Met.* 6a24ff. (fr. 51 L). Cf. also H. J. Kraemer, *Der Ursprung der Geistmetaphysik*, 208-212.

¹⁰⁷ Cf. J. Stenzel, *Speusippos in R.E.*, zweite Reihe, 6, 1664. Cf. also Ph. Merlan, *From Platonism*, p. 109.

¹⁰⁸ *Poetica* 1451b34-35. – Cf. also *Met.* 1090b19-20.

¹⁰⁹ He speaks of συναφή and κοινωνία, *Met.* 4a13-17.

¹¹⁰ Cf. *De philosophia* fr. 17 Ross and G.C. 337a20-22.

¹¹¹ On the use of this text in Greek philosophical writings see F. Buffière, *Les mythes d'Homère et la pensée grecque*, Paris 1956, 345-7.

¹¹² DK A 32 (Eusebius, *P.E.* I 8,4). Cf. Euripides, *H.F.*, 1341-1344 and E. Zeller, "Hegemonia und Despotie bei Xenophanes", in *Archiv für Geschichte der Philosophie*, II (1889), 1-4. Cf. ps. Arist., *De Xenoph.* 977a23ff.